DOCUMENT RESUME

ED 050 652 24 FL 002 254

AUTHOR	Cline, Marvin G.; Joyce, John F.
TITLE	An Evaluation of the EDC Role in the Bilingual Transitional Clusters of the Boston Public Schools.
INSTITUTION	Education Development Center, Inc., Newton, Mass.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C. Bureau of Research.
BUREAU NO	BR-6-2805
PUB DATE	Jan 71
CONTRACT	OEC-1-7-062805-3963
NOTE	88p.
EDRS PRICE	EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS	*Bilingual Education, Bilingual Schools, Bilingual Teacher Aides, *Curriculum Development, Educational Planning, Educational Policy, Instructional Design, Instructional Program Divisions, Instructional Staff, Language Instruction, Language Programs, Non English Speaking, *Program Descriptions, *Puerto Ricans, *Spanish Speaking

ABSTRACT

The report documents the early stages and reflections of some of the initial staff of the Boston Bilingual Clusters program designed for public school instruction for Puerto Rican immigrant children. Conceived as a transitional educational experience, the program seeks to effect the diagnosis and remediation of school problems and unmet needs in the system. The problems of establishing a bilingual transitional school and reactions of the staff of the Boston Bilingual Clusters are discussed. Included in the report are remarks by the head teacher, staff, and teacher aides. Appendixes contain assessment instruments, interview questions, and reports on teacher aide workshops. (RL)

ED050652

AN EVALUATION
OF THE EDC ROLE
IN THE
BILINGUAL TRANSITIONAL CLUSTERS
OF THE
BOSTON PUBLIC SCHOOLS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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The Pilot Communities Program
Education Development Center
55 Chapel Street
Newton, Mass. 02160

Under
U.S. Office of Education
Title IV Program Contract
No. OEC-1-7-062805-3963

January, 1971

FL002254

ED050652

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PREFACE

A major concern of the Education Development Center's Boston Resource Team during 1969 was participation with the community in the diagnosis and remediation of school problems and unmet needs. It was through this process that a new program for the growing number of Puerto Rican immigrant children was established--the Bilingual Transitional Clusters.

Members of the Resource Team who were working in the Andrew School district in South Boston became increasingly aware of the need to tutor Spanish-speaking children who were having difficulty with English. Rosly Walter, a team member, with the assistance and concern of Sister Francis Georgia, a nun who was working as a consultant for Puerto Rican Affairs in the Mayor's Office of Public Service, actively recruited tutors, and provided support and materials as they moved into three different schools. At this time the Boston school system was just beginning to utilize Title VII funds to plan a bilingual education program. To continue the work of tutoring, several nuns and EDC team members planned a summer program, integrated for both Spanish and English-speaking children in South Boston, and conceived as a model for a continuing after-school program.

For some time community leaders in the South End had been organizing and asking for more educational attention for Spanish-speaking children. They were the ones who conceived of the idea of separate transitional schools. Clustered near the familiar neighborhood, Puerto Rican children would not have to be bussed and parents could also be involved.

Curriculum could be taught in Spanish so that the children would not be impeded by having to learn English while struggling with the adjustment to a strange new world. The children, they hoped, would be transferred into regular classrooms as soon as the Cluster teachers considered them "ready." Hence, the Clusters were conceived as a transitional educational experience.

Using available data EDC estimated that 5,000 of the city's 7,800 Puerto Ricans, 6 to 18 years old, were not going to school, while hundreds of others were sitting in classes that could not help them. Fifty percent of the Spanish-speaking children in the English as a Second Language (ESL) program had been held back at least two grades. With an estimated 400 Spanish-speaking children moving to Boston each year, the six classes of twenty students each which Title VII funds would support were not going to be sufficient.

On August 1, 1969 the president of EDC, Robert Hind, and Mary Lela Sherburne, director of the Pilot Communities Program which sponsored the Boston Resource Team, met with Superintendent Ohrenberger to present the results of this survey and offer a proposal for Bilingual Transtional Clusters within the Boston School System. On August 20, 1969 a similar proposal was presented to the Boston School Committee who responded by voting their intent to consider the plan. It was not, however, until the Pilot Communities Program offered to match funds that the School Committee actually voted to assume responsibility for the implementation of the Bilingual Clusters program.

First, it was important to find teachers who were fluent in Spanish. The criteria for hiring became a joint decision involving not only the Boston School Department and EDC, but also members of the Spanish community. Using Title VII job descriptions, teacher aides were hired for each classroom and waivers were allowed for some of the Spanish-speaking teachers who did not meet citizenship requirements.

During the fall of 1969 EDC participated in the search for teachers and aides and organized a six-week pre-service workshop for training the new staff, which was directed by Boston Resource Team member, William Warren. An evaluation of this workshop by Curdina Hill, Pilot Communities Research Associate, revealed that the teachers came with a clearer set of expectations than the aides. They wanted to learn specific methods and materials which they could use in their classrooms. The aides were concerned with the desires and needs of the community, which many of them represented. All the participants seemed to enjoy the informality of the workshop, the opportunity to learn from the consultants and become acquainted with EDC materials.

Psychologists Marvin G. Cline and John Joyce of Boston University School of Education were commissioned in March, 1970 to illuminate problems of the Clusters, evaluate the in-service training which EDC provided for the teacher aides after the program began, and search the literature for scales and test instruments for use with bilingual, Spanish-speaking children. A more formal study was not conducted because during April the Boston Resource Team decided to focus its efforts on a single Boston school and withdrew from the Bilingual Clusters at the end of the 1969-70 school year.

This report documents the early stages and reflections of some of the initial staff--twelve teachers, six of the original twelve aides, and the head teacher--of the Boston Bilingual Transitional Clusters, as well as offering some considerations which may be useful for those who are involved in the challenging task of setting up a bilingual program.

Nancy C. Wrenn
Evaluation Editor
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INTRODUCTION

The original purpose of this evaluation effort, as negotiated with the Education Development Center during the spring of 1970, was to assess the several factors contributing to the development of the Bilingual Clusters and to assess some of the children's responses to this experience. In addition, we were asked to pay particular attention to an in-service training program for teachers and aides being conducted by the Pilot Communities staff at the time our evaluation was beginning. Due to the demanding responsibilities and time commitments involved in the new program, the teachers were unable to participate in the training so that our assessment of this part of the EDC effort was viewed primarily through the aides.

In order to get an overview of the issues, perceptions and anticipations of the staff of the Clusters, as well as to see how they viewed EDC's effort, we used open-ended questions in individual interviews. All interviews with the aides were conducted in Spanish by two graduate students, both of whom were fluent in Puerto Rican Spanish and had had experience with bilingual classes in the Boston area.

A third task of the evaluation was to begin the development of assessment instruments through examination of the literature and discussion with the teacher. Plans to develop a battery of scales for child measurement and a technique for following each child as he moved into the Boston Public Schools were discarded because of the decision of the EDC Resource Team to withdraw from the bilingual program in June. However, we were able to initiate a scale which teachers could use to rate the linguistic, arithmetic, and social skills of their students and another scale for teacher judgment of a student's readiness for transfer to public school. We also offer a review of the literature on assessment instruments in Spanish.

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SECTION I

The Problems of Establishing a Bilingual Transitional School

The task faced by those charged with the responsibility of educating the children of the Puerto Rican families moving to the mainland is difficult indeed. The more obvious reasons for this include the fact that such children ordinarily do not speak English, are from economically deficient families, and are attempting to settle in a section of their homeland (mainland, U.S.A.) which has regularly exhibited a demeaning and debilitating hostility to its ethnic groups. These factors serve as barriers to learning; it is not necessary to document their association with academic failure.

Understanding the community essential

One area of investigation which should involve anyone participating in the education of bilingual children is the problem of culture conflict and adaptation of the minority group as they interact with the majority culture. In the case of Spanish-speaking people settling in the Boston area, the adjustment problems appear to be massive. Teachers of children from these families would clearly need to know the nature of these adjustment issues in order to deal effectively with the children. The teachers would need to know the parents' expectations and values with respect to the school, the teachers, and the wider community. This is particularly important if a teacher is not Puerto Rican herself. One possible solution to the problem of a non-Puerto Rican teacher in a bilingual classroom is to provide the class with a Puerto Rican teacher aide who is

Aide's role critical

knowledgeable about the community from which the children come. Clearly such an aide might play a critical role in the adjustment, as well as the learning, of the children although that role would be mediated by the skill with which the teacher and the aide were able to exchange information and coordinate teaching strategies.

Style of teaching second language critical

Investigators have engaged in a good deal of hypothesizing about the style of teaching as a critical factor in the ability of a child to learn a second language (9, 10). Age of the child seems to be a determining factor in the selection of a particular teaching style.

One style is seen when the student is taught the second language directly without reference to the native language, as a mother would teach her child, or as in the method used in certain crash programs with adults, such as Berlitz. There appears to be little interference between the two languages, although Anastasi and Cordova attribute some of the difficulties in language learning of Puerto Rican children to the fact that they learned English in such a different situation (school) from that in which they learned Spanish that the children failed to master either language (1). These authors refer to this style of learning as bifurcated bilingualism. This appears to be the same style referred to by Osgood (6) as coordinate bilingualism, a term adopted by Fishman (8) and by Lambert (12). These authors suggest that the coordinate method is most efficient when used with young children, presumably because they are learning both the native language and the second language simultaneously. There seems to be no intrinsic damage to a child to rear him in a bilingual environment (1, 7, 10, 12). On the contrary, some investigators (11, 13) suggest that a child who learns a second language at an early age (this appears to mean at an age before the native language is syntactically complete, usually between 4 and 6 years), is able to switch easily between languages in a way that resembles cognitive flexibility.

Learning second language before age 8 preferred

Penfield (13) has suggested a brain mechanism for this function in which the uncommitted cortex (consisting of the undeveloped speech and language centers) is capable of easy speech and language learning before the age of physiological fixedness (chronological age of 10 to 12 years). If a second language is learned before this period, the necessary functional connections for bilingualism are set and will facilitate later language learning. If the uncommitted cortex is occupied with a single language during the formative period, then a functional fixedness will occur which makes learning a second language at a later date considerably more difficult. Penfield suggests that second language learning should begin before ages 6 to 8, particularly if a child will be living in a bilingual environment, or if he will be expected to learn another language later in life.

In a classical comparison between monolingual and bilingual college students, Peal and Lambert (12) found several advantages in cognitive functioning for the bilinguals which tend to support Penfield's notion of the consequences of learning a second language at an early age. The bilinguals who did in fact learn at an early age performed better than monolinguals on non-verbal tasks involving concept formation and symbol manipulation. Although the authors suggest that the flexibility in thinking stems from the linguistic flexibility contained in the capacity to switch from one language to another in searching for alternative solutions to difficult conceptual problems, this conclusion is not really warranted by the design of the Peal and Lambert study. Unfortunately, the two groups of students were selected because they were different and therefore, the search for differences in their early experiences is bound to be successful. The two groups are not equated on all functions and dimensions except their early language learning so that any one of dozens of differences between the groups could be considered the cause of the differences in their cognitive functioning. There seems to be some evidence that the bilingual groups did, in fact, come from a slightly higher socio-economic level. Nevertheless, Peal and Lambert feel their data support the Penfield hypothesis.

Translation method useful with older students

A second style of teaching a second language, more commonly thought of as the translation method, is referred to by Osgood (6) as compound bilingualism and by Lambert (12) as balanced bilingualism. In this case the subject is taught the second language in the same context as the native language. The native language is used as the translator of words and the second language is taught as a substitute for the native language. The learner's task is to associate another symbol for each of the symbols in the native language. Although this appears to result in some confusion between the two sets of symbols, it is the relatively well developed native language which lends support to the second language. Understandably, this method is claimed to be useful with older subjects.

Learner's attitude toward second language key to success

It is also clear that the social significance of the second language to the learner is an important contributor to his success in learning the second language. Lambert (11, 12) was able to compare the French language skills of Franco-American students in Maine and Franco-American students in Louisiana to comparable American students in those same communities. He reports that the French skills of Franco-Americans in Maine are superior to those of American students, and the reverse is true in Louisiana. He attributes this to the fact that the Franco-Americans in Maine have pride in their ethnic heritage, whereas the opposite is true in Louisiana. He argues that French culture is fading in Louisiana, whereas this is not so in Maine. Fishman (7) concludes essentially the same thing after a survey of the linguistic history of several ethnic immigrant groups throughout American history.

In an early study of Puerto Rican school children in New York City, Anastasi and Cordova (1) conclude that one of the reasons the Puerto Rican children did so poorly on the Cattell Culture Free Test of Intelligence was because of a diminished sense of self worth associated with ethnic status.

The children felt that their language represented a handicap to them and served as a source of social judgment of them. This, rather than their bilingual status per se, was seen as a cause of the poor test performance.

Diagnosis of language competence, complex task

The task of those who will teach English as a second language to minority group children is to discover the extent to which the children have mastered the native language and the significance to the children of learning English. Diagnosis means considerably more than summing up the number right which a child gets on a sample of words used in a vocabulary test. Language competence refers to the ability of the child to discriminate the nuances of sights and sounds involved with words, phrases, and sentences; the extent to which the child recognizes and can use the syntactical structure of his language (i.e., knows the rules, grammar, structure of his language); the extent to which the child can use language to accomplish desired impacts on specified individuals (i.e., recognizes the relation between the choice of words and his intentions and purposes in communicating). Vocabulary and reading skill are functions which are the consequences of acquiring language competence, although there are many other factors contributing to vocabulary and reading skills beyond language competence. In order for a teacher to develop strategies for dealing with given children, it is critical that she understand the relationship between the first and second language competencies. The research questions relevant to this problem have been stated extensively (3, 4, 14) and a large, if inconclusive, body of literature has developed in this area.

Use of standardized tests limited

Not only is it important to assess the linguistic competence of particular children but it is useful to develop means of evaluating whether an educational experience is appropriate to the overall needs of the students involved and this is usually done through the use of standardized tests which produce scores directly comparable with children having comparable educational histories. Unfortunately the usual definition of "comparable educational experience" is based upon a comparable number of months in the educational process, with no consideration given to the content of that experience. In the case of Spanish-speaking children the content of their experiences is clearly divergent from that acquired by the typical population on whom standardized tests have been developed. No direct comparison is therefore feasible. Further, standardized tests cannot be used for diagnostic purposes with respect to individual children. The only remaining purpose for the use of standardized testing is to assess the rate of development of a given sample of children over time. This implies the use of local norms rather than standard norms, and proscribes the use of such tests considerably. They are, nevertheless, of value in assessing the longitudinal aspects of growth in restricted areas of academic endeavor.

Readiness for transfer criteria

The task for teachers of a transitional bilingual class is to establish meaningful criteria for determining when a particular child should move into the regular English-speaking class. The question arises, of course, as to whether a Puerto Rican child should ever be moved into a class in which his native language will never be used. Assuming, however, that these children must move out of the transitional classes at some time, what social-emotional criteria should be used to decide on the time of this move? What linguistic criteria? What academic criteria? What system should be used to deal with the situations in which the wrong decision was made and a child was moved out too early? These issues are based on the assumption that adequate assessment instruments are available or can be developed.

It was to this latter task that this evaluation team turned its attention. In order to assess the children of the Boston Bilingual Clusters we decided to develop a pilot rating scale* which would give teachers a broad range of social-emotional, academic and linguistic areas of student behavior to assess. It was hoped that this would assist teachers in understanding individual children and aid in monitoring the development of the program, if used regularly over a period of time.

Appendix A offers a review of the literature on assessment instruments, our Student Behavior Rating Scale with the frequency distributions for 91 of the 150 children in the Boston program, and a suggested Readiness for Transfer form.

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* Adapted from The Child Behavior Rating Scale, authored by R.N. Cassell, and published by Western Psychological Services (1962).

SECTION II

Reflections of the Staff of the Boston Bilingual Clusters

On January 12, 1970 twelve teachers and twelve aides under the direction of one head teacher began to teach 150 Puerto Rican children in three separate locations--Old Boston College High School in the South End of Boston, Denison House in North Dorchester, and St. Paul's Center in Roxbury. A pre-service workshop brought these people together for the first time six weeks before the formal teaching began, but it was clear that support should continue as the fledgling program got underway. EDC designed and offered a second workshop in which various games and tasks made from economical and familiar materials could be learned by the aides who could then utilize these as teaching tools in the classroom. Initiated by the head teacher, who felt this would help to make the aides feel important, the workshop is described in detail in Appendix B.

We talked to the head teacher about her role in the Clusters, the criteria used for selecting teachers and aides, her estimate of the success or failure of the EDC training, and her view of the ideal experience for Spanish-speaking children in Boston. The interview was conducted in the fall six months after the program began. It is interesting to note that at this time there were more than 200 children attending the Clusters and a long waiting list had been established. The older children who had been a major problem in the early part of the program were not enrolled, the age range having been restricted to 6-14.

Interview with the Head Teacher *

Although the Clusters were planned in October, 1969 and the workshops for the staff started in November, the present Head Teacher was not hired until January, 1970. She had been teaching an English as a Second Language class in Boston and had extensive experience teaching in her native Puerto Rico before marrying and moving to the mainland. Since she was already an employee of the Boston Public Schools, there was no difficulty in transferring her from the ESL program to the Clusters. She then became directly responsible to the Director of the new Department of Bilingual Education.

The Clusters are not classified as a school by the Boston School Department and therefore lack in most of the services given to the other schools. Thus, the Head Teacher explained, it was necessary for EDC to train the aides, supply specialists, and establish the in-service training program. It also meant that she was not classified as a principal, but as a teacher-in-charge, and was paid accordingly. None of the regular personnel services, such as guidance counselor, truant officer, doctor, reading specialist, music teacher, or physical education teacher,are supplied, nor are there health facilities so that children who need shots or other medical care must be taken to the local hospital clinic.

The major advantage to this arrangement is that there are no

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* See Appendix B for the questions used in each of the interviews.

curriculum requirements placed on the Clusters, which allows the staff to establish almost any program they see fit. If the school department were to establish the Clusters as a regular school, this freedom might be lost, she feels. On the other hand, it would be good to have the additional services.

Last year all the staff was hired by a process involving EDC, the community and the Boston Public Schools. She did not participate since she was not hired until after the program was underway. However, this year (1970-71) she was primarily responsible for all of the hiring. Her primary interest was in getting teachers who could speak Spanish. Since there were very few certified teachers in the Boston schools who could speak Spanish and who would be willing to accept assignment in the Clusters, almost all of the staff are uncertified Puerto Ricans and Cubans. All of the aides are Spanish-speaking women from the community.

Of the original twelve teachers and twelve aides who began in the program, only two teachers and six aides returned the following fall. Most of the teachers who did not return, the Head Teacher commented, felt that they were cheated. They felt that this was to be their school, their own creation. At the EDC workshop they were led to believe that they had an opportunity to develop their own program. Their notion was to make the children proud of being Puerto Rican by making this an open school. They did not realize that even with the freedom allowed the Clusters, there are certain guidelines that must be followed. These, she stated, come from an anticipation of what the children would face in the regular classes and what they would need in order to be successful there. The Clusters are a transitional school, not really a Puerto Rican school, although it would be desirable to help the children become proud of being Puerto Rican. The teachers who did not return were dismayed when they found that the children actually had to be prepared for the real world of school. They felt they were not given the opportunity to develop the kind of free school they were lead to believe was possible, and indeed expected.

Among the Latin American teachers who returned, the Head Teacher continued, most felt that they had to get the children ready for school. They knew that there are so many Spanish-speaking children like these that there will not be enough room for all of them in the Clusters and it is necessary to move as many children out of the Clusters as soon as possible. These children should be as well prepared for school as possible and that is why these teachers returned, she felt.

As for the aides, the major problem was the poor pay, according to the Head Teacher. They were paid $3 per hour and received no benefits whatsoever. The aides were reluctant to press for more teaching duties since it was clear that they would not be paid at the teacher scale. For most of the aides, the Clusters just represented a job, she felt. Few had any real devotion to education although they were interested in helping the children. When an aide left the Clusters, it was primarily for a better paying job.

It is not fair to compare the criteria for selecting teachers and aides last year with those used this year, the Head Teacher explained, since the program was just starting and recruiting took place in the middle of the academic year. Almost anyone who could speak Spanish and who was available in the late fall was hired. This year the hiring was carried out solely by the Head Teacher. The parents did not contribute to the hiring process except by way of their comments on some of the teachers who were hired last year. Some disgust was expressed because of the teachers' lack of discipline, the children were not learning enough English and because the teachers' Spanish was not good enough. Consequently, when the Head Teacher interviewed prospective teachers for the Clusters this year, she asked each candidate, "What do you understand by 'discipline'?" The Head Teacher commented that "discipline" is not a bad word, rather, it is a misunderstood word. She was looking for answers that suggested that discipline meant no chaos, but a good balance between control and freedom. She felt that chaos was present in many classrooms last year and wished to change that. She reported that she informed the assistant superintendent that she would be looking for people who could teach and who would see to it that the children were taught. She did not want undisciplined non-teachers back in the Clusters this year.

In terms of a pre-service training program for teachers, she felt this was important because many of the teachers were untrained and needed experience in teaching reading and writing in Spanish, in techniques of classroom management and preparation of lesson plans. This, she felt, was particularly crucial because there were no curriculum guides for teachers and they would be doing a great deal of their own curriculum development as they went along. In-service training, she felt, should consist of a series of a programs on the theory and practice of bilingual education. Consultants on language instruction should be brought in to run these programs and to introduce new methods for teaching English and Spanish.

The most important training for the aides, the Head Teacher continued, would be to teach them to be teachers. This would be the best way to get them involved in the community and utilize them in the classroom. The most appropriate functions for the aides in the classrooms are to be responsible for the hard-to-handle children, the non-learning children, and the advanced children. This would free the teacher to deal with the majority of the children. Since many of the learning problems, she is convinced, stem from the unique cultural disadvantages of the Puerto Rican children, the aides should be particularly equipped to deal with deviant children.

The EDC workshops for the teachers were not too effective, she felt, because they did not cover much of what is described above, although she did not attend (the Anglo-American teachers felt she was too traditional and did not want her there, she explained). However, she did know that the book, "The Open Classroom," by Herbert Kohl, was given to the teachers by the EDC staff. The Anglo-American teachers reported that it was a great book and the Latin-American teachers did not like it. The Head Teacher did not believe that there was much discussion of the book among the teachers, nor was there a resolution of the differences between them. The workshops ceased after two or three months because they did not appear to be relevant to the teachers.

The workshops for the aides appeared to her to be more successful. The aides were not convinced that they were really teachers because they had so little skill in teaching. The workshop was designed to give them certain skills that would be appreciated by the teachers and children and give some enhancement to the status of the aide. The workshops taught the aides how to play certain academic games* and these were very helpful in remedial work in the classroom. Thus, the aides were helped to feel important as helpers and, in that sense, the workshops were successful, she said.

The major services the Head Teacher wanted from EDC were aid in curriculum development, program planning, and specialist support in reading and language instruction. The most valuable support given by EDC was in supplying materials and in paying for in-service training. Nothing of what EDC supplied was lacking in value. The major deficiency was in the unfulfilled needs of the Clusters. It would be desirable for EDC to relate to the Clusters by supplying the expertise and the guidance in their attempt to gain expert knowledge of the problems of the Clusters. This meant understanding the needs of the community as well as the needs of the children and the teachers and supplying guidance in reducing those needs.

The Head Teacher described the ideal school for these children as a bilingual school in which both Spanish and English are taught to both Spanish and English speaking children. A transitional school is really a segregated school and the children are very much aware of that, she felt. It is just like the schools in Puerto Rico and both the children and their parents really want a school which speaks to the requirements of life on the mainland. In a real bilingual school

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*See Appendix C for a description of these games.

Spanish-speaking children will see non-Puerto Rican children learning to speak Spanish and they will feel proud of their language and proud of the fact that they are superior to the English-speaking children in this linguistic skill. They will learn that the Spanish language has social value, is valued by the school to such an extent that it requires other children to learn Spanish. This is particularly important for the kind of children who are attending the Clusters. They are illiterate in Spanish, as well as in English, and in order for these children to learn, they need to know that the world of the school values their language.

Although EDC did bring some information to the teachers on the problem of learning to read in the native language, this issue was never developed into a full program and was never related to the special problems of these children, the Head Teacher explained. In the same way, criteria for moving children out of the Clusters and into regular classes were never discussed. If the Clusters could be transformed into a true bilingual school, all of the academic requirements of regular classes would be met in the context of bilingual curricula and the need to prepare the child for a major shift in educational environment would not be there, the Head Teacher concluded.

The Teachers

It became apparent to those working in the Bilingual Clusters that the aides were not completely satisfied with their roles, nor had this been clearly thought through in the beginning. In order to alleviate this misunderstanding, EDC was asked to conduct a workshop* which would give the aides some additional classroom skills and thereby increase their status in the eyes of the teachers, students and administration.

This topic, the training of the aides, was used by the evaluation team as an opening for discussion of some of the problems and issues in the Bilingual Clusters, as the teachers saw them. Open-ended and flexible questions were designed, with each interview lasting 1½ hours. Each teacher was shown the questions at the beginning of the interview, which helped her to construct an extensive, coherent and unrestricted statement on as broad or narrow a range of topics as she desired. Almost verbatim notes were taken by the interviewer.

One of the more important issues of the Bilingual Clusters relates to differences in style and values of the Latin-American and Anglo-American teachers. We therefore shall report summaries of the responses of each group to our questions.

Not one of the Anglo-American teachers reported having worked with an aide or assistant teacher previous to their employment in the Clusters, neither had any of the Latin-American teachers. All of the Anglo-American teachers recalled that initially they were in favor of the aide being considered an equal, a co-teacher, but all made it clear that they now believe this to be rather romantic and unrealistic. One went so far as to say that the earlier statements were "foolish, an emotional exercise." Another stated that the aides felt threatened by the implication that they would be expected to teach because, in fact, they did not know how to teach nor did they want to. Several felt that the aides should have a chance to teach but this should be in a restricted area, such as Puerto Rican culture, and they should be carefully prepared to do this. Another teacher mentioned that the aides were particularly ill-prepared to deal with the older children in the Clusters, a point made by all of the teachers, regardless of cultural background, who taught the older children. Several teachers mentioned that the aides resented being asked to do the same work that the teachers did for less pay. This was a theme mentioned by several of the Latin-American teachers as well. The point of these responses was that as time progressed, the teachers became more and more aware of the magnitude of the problem they faced, of the professional skill required to meet that problem, and of their interest in controlling their classes without interference from the non-professional aides. They continued to feel it was desirable to have community people in their classrooms but the context for this judgment seemed to have undergone a change from the beginning of the program.

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* See Appendix C

One aspect of the change in judgment about the role of the aide stems from the Anglo-American teachers' discovery of some critical differences between themselves and the aides. All mentioned that the aides seemed to feel uncomfortable with the teacher's method of maintaining discipline in the classroom. It is clear that these teachers assumed an essentially permissive approach to the children and organized their classrooms along rather unstructured lines. This appears to be consistent with the orientation developed by the EDC advisors, but does not appear to be consistent with the aides' notion of the ideal classroom, at least as the teachers saw it. It was this difference in the appreciation of the open and permissive conditions which facilitate learning and development that appeared to have signaled to the teachers that the aides did not have the skills necessary to play the role of co-teachers.

It was also this difference in style which appears to have demoralized the feelings of the Anglo-American teachers. Much to their surprise, they found themselves in opposition to just those people toward whom they felt greatest responsibility--the community and their representatives. Their educational values were bringing them into conflict with their socio-political values. Further, this conflict was reflected in their relationship with the Latin-American teachers who clearly shared values with the community and preferred quite a different style of teaching. The Anglo-American teachers expressed a feeling of isolation within the Clusters, a decline in discussion with the other members of the staff about professional problems, and all reflected a conflict of values with the Latin-American teachers and aides. It is interesting to note that at no time did any teacher mention this culture conflict as a topic for consideration by the EDC staff, and the EDC staff did not include these issues in their work with the Clusters.

Responses of the Latin-American teachers varied. Several felt that the primary problem of the classes in the Bilingual Clusters was the wide range of ability levels. They suggested that the classes be split into more homogeneous groups with the second teacher taking over a whole section for instruction. Several others made it very clear that they did not want to have another teacher in their classroom because it confused the authority structure and the teaching techniques. To these teachers an aide is one who would assist the teacher in housekeeping, discipline, and individual and small group tutorial work. Only one teacher, who is South American not Puerto Rican, mentioned the cultural role of the aide, but added that there were several issues around which confusion existed because of cultural differences between the teacher and the children. The Latin-American teachers did not seem to have changed their conception of the role of the aide, as the Anglo-American teachers had, but saw her as a nonprofessional helper under the direct supervision of the teacher. The Anglo-American teachers seemed to be much less clear about the status hierarchy of the classroom.

When we asked the teachers what they saw as the major needs for training the aides, in all cases the Anglo-American teachers felt the major need was for the aide to learn the style, values, and preferences of the individual teachers with whom they would be working and suggested that the aides and the teachers should attend a workshop together so that they could get to understand each other. Only one teacher suggested that the aides should learn how to teach basic academic skills. She felt, however, that it was most important to teach the aide how to anticipate what needs to be done in the classroom, how to recognize a child who is inattentive, how to motivate a group of children to events in the classroom, and how to reward a child in a manner consistent with the techniques used by the teacher and related to the needs of the child. Another Anglo-American teacher suggested that the aide should learn a philosophy of education and a theory of discipline which would allow the aide to make decisions consistent with those made by the teacher. One very young beginning teacher, whose aide was an older woman and mother, felt awkward running her classroom in a manner which she knew her aide disapproved, even though the aide did not mention this out of respect for the teacher's status. The teacher reported that she simply could find no way to communicate with the aide on these matters, even though she greatly respected the older woman and felt in need of her mature hand in the classroom. This concern was not mentioned as a problem which the EDC staff could handle, although the question was not asked directly.

One need of the children, mentioned regularly by the teachers, involved the transition from home to school. This was particularly a problem for the older children and for those who had had difficulties at other schools. The aides, as representatives of the community and the Puerto Rican culture, were seen as individuals who could ease that transition. Several teachers mentioned that the children felt comfortable with the aides in the classroom and looked to them for help in translating the teacher's Spanish. Several thought the aides should be able to bring Puerto Rican culture and history to the classroom but they were concerned that the aides were really not very familiar with much of their history or could not easily express their culture verbally. Apparently these teachers saw training for the aide in terms of the direct interplay between themselves and the aide, not in terms of the independent role which aides might play in the classroom.

In answer to this same question, the Latin-American teachers emphasized the problem of the presence of many ability levels in each classroom, particularly among the older children. Teachers of the younger children reported a need for effective tutors, rather than aides who simply read to the children or listened to the children read. Most of the Latin-American teachers suggested that the aides be trained in specific academic disciplines (reading and arithmetic skills) in order to carry out instruction. They did not have preference for a particular method but wanted the aides to be able to work with children they selected for special help. One teacher said it was hard to keep track of children who were lost in a particular lesson and this was an area for training the aides to be of assistance. All agreed that there was a need for drilling children at various points in each lesson. Another teacher, who worked with older children, insisted that the major problem was discipline and that the aide was simply not able to deal with adolescents. These teachers were not concerned about the possibility of their classrooms being hostile or alien to the children and did not reflect the need for a familiar person from the community, as had the Anglo-American teachers. There was no mention of the aide being trained in Puerto Rican history or culture, probably because they felt the aides already were familiar with this. Because the Latin-American teachers agreed with the aides on the importance of discipline and structure in the classroom, they did not indicate need for the aides to be trained in these areas either. In terms of the most effective role for the aide, the Latin-American teachers had several suggestions. One felt that the aide should offer emotional support to the children, another wanted the aide to be able to interpret the children to the teacher, particularly when there were cultural differences between the teacher and the children. The remaining teachers indicated that the aides should be responsible for tutorial and small group activity.

When the teachers were asked to identify any specific skills which the aides gained in the workshop given by EDC, they all reported that the aides had learned the games, but to some this was demeaning because they were "so juvenile." The Anglo-American teachers did not feel the aides had learned anything that would increase their skill as teachers or make them more valuable to the class. The games were used "a few times" (2-3 times) in each of the classrooms at times selected by the teacher, usually during free time. Most often, bingo or lotto was played by the whole class at the same time. The older children, according to the teachers, became quickly bored with the games but the younger children seemed to enjoy playing. Apparently, there was no discussion between any teacher and aide about maximizing the use or value of the games, establishing criteria for their use, or establishing standards for the selection of children to play them. The games were seen by the teachers as extraneous because they were not involved in the workshop training, and did not see that the aides were helped with any of the issues which she might encounter when she brought the game back to the classroom.

The Latin-American teachers disagreed on the usefulness of the games. They felt that the younger children enjoyed them but the older children were insulted. The aide in the class of older children refused to continue to go to the workshop because of its lack of relevance to the children. Another teacher characterized the games as "tricks" and saw no value in them at all. The teachers of the younger children, however, did see them as useful and played the games with some of their children during free time. The teacher was the one who selected the children who would play and chose the time for playing. The games were not used in any way to change the status or functioning of the aide in the classroom. They simply broadened the range of events which the teacher could use in directing the work of the aide. All of the teachers felt that the games did have some instructional value but they appeared too trivial for the purpose of learning. In this the Latin-American teachers shared their judgments with the Anglo-American teachers, but for different reasons. The Anglo-American teachers saw the games as lacking in motivational properties and the Latin-American teachers saw them as lacking in adequate drill or cognitive rationale. For example, one teacher said that they failed to communicate a sense of number and taught only by rote.

Most of the teachers did not see that the workshop training for the aides had increased the status of the aide in the classroom in any way. What the teachers wanted of their aides was not considered in the workshop. The fact that each group of teachers had a different approach to the role of the aides and to a theory and practice of education was not dealt with in the workshops. Because the teachers did not see their problems related to the EDC staff indicates that the EDC staff was seen as tangential to the functioning of the Clusters. It was only the Anglo-American teachers who saw the EDC staff as a source of some support and this appeared to be minimal. Clearly the emerging conflict of educational values, the central issue apparently for most of the teachers, was never dealt with by any one associated with the Clusters. The impression one gets of many of the Anglo-American teachers is that they feel strongly committed to the "open classroom" style of teaching but they are coming more and more to feel that the community and the school administration must agree with this as well for it to be effective. There was a sense of depression and letdown from the beginning of the project when each teacher believed that the children would blossom rapidly under the tutelage of a permissive teacher. We conclude therefore that for each teacher, as with the whole Bilingual Clusters program, the interaction between an educational philosophy and the Puerto Rican culture must develop into a new notion about the education of Puerto Rican children in the Boston ghetto.

The Teacher Aides

As with the teachers, the interviews with the aides were designed to be open-ended but these interviews were conducted in Spanish since all six who were questioned are Spanish-speaking women. Only half of the original twelve returned to work in the Clusters in the fall of 1970 when the interviews were conducted, and we did not have an opportunity to contact the six who did not return.

All but one of the aides had no teaching experience before coming to work with the Bilingual Clusters. One had taught in the Migrant Education Program in Boston's South End in the summer of 1969. Most of the aides we interviewed had between eight and eleven years of schooling, most of which was in Puerto Rico, although one had gone to school in Havana, Cuba and completed one year of teachers' college there.

In taking this job most of the aides believed that they would be "helping" the teacher in some way, but it was not clearly defined to them exactly how they would be "helping." Most of them felt they would be subordinate to the teacher since they did not consider themselves as well prepared.

When asked what duties they found most interesting, some mentioned community work and teaching Spanish, but discipline seemed to be the greatest problem area in the classroom because of the fact that it is so necessary in establishing a good learning environment. One aide said that helping children to develop discipline and good habits in school was of utmost importance in helping them to progress. She also said that it was even more important in a class of Latin-American children, since they are more difficult to control than Anglo-American children.

The nature of the work the aides did was varied. All did some teaching, either working with the whole class or tutoring slower children who needed special help. Most of the aides also did work in the community, such as visiting parents or taking the children home or to the hospital when they were sick. Most of the aides complained that much of their time was spent handling discipline problems and related this to the permissiveness and openness of the classrooms of the Anglo-American teachers with whom they worked. They believed that as Latin-Americans they could handle the children more effectively. "The teacher always played with the children, and thus the children did not respect him." One aide commented that her class spent much time outside the school, in the street, and that this time was wasted, since there is nothing to learn in the street, and when the children came back to class, they could not settle down to work. Another aide said that she felt a teacher ought to have a "strong character and personality," qualities which she found lacking in the teacher she worked with. Another felt that her teacher showed affection to the children too openly and thus the children took advantage of her. She added that she had been disappointed because the teacher never accepted her suggestions regarding discipline.

Another common complaint was about the conditions in the schools, the physical plant and the availability of materials, in particular.

One aide said that her room was so cold that the children had to wear their coats during class. Another aide said that the children had no decent place to be during recess.

When asked which of these problems they felt they should be helping with the most, the aides agreed that discipline was their primary concern. Some of them also believed that they should be teaching Spanish since the teachers they were working with were Anglo-Americans who often did not speak Spanish well. Some of the aides thought they needed more practice in teaching and more training in teaching techniques, in order to clarify the teacher-aide relationship which seemed to be still vague even after the program began.

Of the six aides questioned, only four had attended the workshops provided by EDC. The other two, who worked at Denison House, did not know about them. The ones who attended said that the content was learning how to make and use educational games to teach such things as multiplication, division, subtraction, spelling, names of animals, geometric shapes, and so on. They were able to apply what they had learned to their classrooms and said that the children used one of the games almost every day, although it was the teacher who usually determined which children were to use which game and when they were to use it. Only the Cuban aide, who had an excellent relationship with her Cuban teacher, was able to organize the class in order to use the materials she learned in the workshop. In most of the cases, the teacher did not know the skills that the aide learned in the workshop, but the aides were able to demonstrate their newly-acquired skills to the teachers. One aide said she demonstrated what she had learned in order to prove to her teacher that she was not wasting her time by leaving the classroom to attend the workshop. She said her teacher was always satisfied with what she brought back. In all cases, the aides themselves made the decision to go to the workshops and decided exactly which workshops they would attend.

We asked the aides about one of the major goals of the Bilingual Clusters--preparing children for regular classes in the Boston Public Schools. The aides felt that there were few children in their classes who were ready to enter regular classes. The criteria for this decision, they all believed, was a working knowledge of English, that is, the child should be able to communicate with his teacher and classmates, read and write in English, and not feel inhibited in the classroom. Also, they felt the child should be well-disciplined, both in terms of study habits and behavior.

We then asked if they felt a child who was considered ready should be transferred to the public schools or stay in the Bilingual Clusters. Opinion on this was split. Most of the aides thought that the child should not stay in the bilingual classes but their reasons differed. They felt that a child would learn more in the public school than in the bilingual, that he was wasting his time, that is, being kept back, or he would lose his English, if he stayed in the bilingual classes. Also they thought that in order to provide room for the many children who needed the bilingual classes, children who were ready should move on to the public schools. But some of the aides disagreed. They felt that even if children were ready, they should stay in the bilingual classes because here they would have a Latin-American teacher. One said, "It would be marvelous to have the children stay in the bilingual classes because it's a great advantage to know two languages."

Five of the aides expressed a definite preference for working in the Bilingual Clusters when we asked them if they had a choice, would they rather work in the Clusters or in a public school classroom. They felt they were better prepared to help Latin-American children. The one aide who dissented did so because she said she wanted to be wherever she was needed and wherever she could be of most help to Spanish-speaking children. She believes that there should be a Spanish-speaking person in every school that has Latin-American children.

It is clear that the aides felt that they were doing an important job in the Bilingual Clusters. They were pleased that they could help keep classes under control, and they felt they were performing an important service intaking children to the doctor when necessary, in meeting with the parents, and in giving guidance and support to the children. We observed as we interviewed the teachers that no teacher hesitated to turn her class over to the aide in order to find the time to be interviewed. Informal observation of the relations between the children and the aides led the members of the evaluation team to conclude that only two aides failed to establish warm and accepting relations with the children.

Certainly, the teaching of Spanish represented one of the strongest potential skills which the aides could offer, and probably a major source of job satisfaction for them. However, there was no evidence that either the teachers or the aides discussed techniques by which English or Spanish should be taught in the classroom, nor was it a subject raised by the EDC staff. It is our feeling that the fact that so little is known as to the most appropriate methods for teaching either Spanish or English to children such as these would put the teachers and the aides on a more equal professional level, thereby achieving the egalitarian goal which the Anglo-American teachers, at least, felt they preferred.

Another weakness of the program which appeared through the interviews was the lack of clearly-defined goals. Understandably, the teachers and aides have divergent views on what "readiness for transfer to a regular classroom" means since there have been no follow-up studies of the reasons for success or failure following transfer. Until it is clear what the goals of the Clusters are, it will be difficult to develop a well-defined set of strategies for instruction or curriculum development. It will also be difficult to coordinate with the teachers of the regular classes in preparing for the transition of particular children.

From the aides' point of view the major problem in the Clusters was discipline. The aides felt that the Anglo-American teachers were too permissive and failed to win the respect and obedience of the students. There is no doubt that a good deal of difficulty resulted from this conflict and from the fact that it was not discussed or openly communicated. It is not surprising that the Anglo-American teachers reported that they could not work out very satisfactory

instructional strategies with their aides when a fundamental breakdown in communication existed. At the same time it appeared that the Latin-American teachers were able to coordinate with their aides to a much better extent because there was a clear-cut agreement between them as to the most important task for the aides--maintaining discipline. We concluded that in most cases the role of the Cluster aides, although poorly defined, excluded meaningful instructional activities.

CONCLUSIONS

There is no doubt that the major problems of the Clusters are just now emerging. There is a definite need to clarify the overall purpose of the program, i.e., whether to prepare Spanish speaking children for regular classrooms or to function as a continuing bilingual school, as the Head Teacher idealized with us in her interview. Once this decision is agreed upon, teachers could systematically state particular criteria of student behavior which they feel would indicate a student's progress toward specific goals, as we suggested in the Student Behavior Rating Scale.

Other important problems which have moved into perspective since the program began are the need to match teaching style to the cultural values of the community being served by the Clusters, the importance of understanding linguistic development and various appropriate methods of language instruction, and the coordination of the Clusters with the Boston School Department.

The EDC emphasis at the beginning of the program on the "open classroom" style of teaching with inductive problem-solving materials and a less authoritative role for the teacher, although supported by the Anglo-American teachers, was rejected by the predominantly Spanish staff as trivial and extraneous. The need for better communication between aides and teachers, alluded to by some of the staff in our interviews, was introduced as "team building" by EDC in the pre-service training but the methods used for this were rejected at that time by the uninitiated staff as forced, not "natural."* We therefore conclude that EDC was tangential in its impact on the Bilingual Clusters during their first few months of operation.

To some extent the new Department of Bilingual Education within the Boston Public Schools will be able to step into the role of technical supporter but that Department is vastly overburdened by the very large numbers of children it must serve in the bilingual classes and the English as a Second Language program.

The excellent work of the Task Force on Children out of School in Boston, which not only indicts the Boston School Department but hopes to achieve corrective action, and the emerging coalition of forces throughout the state which is exerting pressure on the legislature for financial support of bilingual transitional education throughout the Commonwealth portends hope for the some 40,000 school age children who are caught between two cultures.

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* Hill, Curdina J. "Analysis of Questionnaire from Bilingual Clusters Teacher Training Session." Evaluation Unit, Pilot Communities Program, Education Development Center, Newton, Mass., 1970.

POST SCRIPT

EDC was instrumental in getting the Bilingual Clusters program started at a time when there was limited support for such a program within the Boston School Department. Because of EDC's advocacy position, program personnel skills, and allocation of critical starting funds, which were matched by the School Department, this needed service was begun.

Once the School Department had jurisdiction however, the influence of EDC diminished. EDC tried to help all the teachers in the Bilingual Clusters but they had two handicaps: they were not part of the Boston School System and they unwittingly allied themselves with one of the factions within the Clusters, the Anglo-American teachers. This last served to make the Latin-American teachers and their supporters suspicious and resentful of the "outsiders."

The problem of cultural conflicts is at the heart of establishing bilingual programs. The political reality of opposing cultural groups must always be recognized. To ignore the polemics of establishing schools with people who have different philosophical orientations is naive. Perhaps the story of the establishment of this bilingual transitional school is just one of many similar stories told today as Americans try to remedy the educational problems of immigrating non-English speaking people. EDC's work serves to document an almost classical example of the political, as well as educational, problems involved in working with different groups of people toward a common goal. The goal or vision may be commonly held, yet the differing approaches of the participants may make conflict a daily experience. Understanding the dynamics of these everyday problems may at least give comfort to laymen, educators, and the representatives of the community who may struggle with these for the first time.

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BIBLIOGRAPHY

1. Anastasi, Anne and Cordova, Fernando, A. "Some Effects of Bilingualism upon the Intelligence Test Performance of Puerto Rican Children in New York City." *The Journal of Educational Psychology*, Vol. 44, No. 1 (January 1953), pp. 1-19.

2. Andersson, Theodore. "A New Focus on the Bilingual Child." *The Modern Language Journal*, Vol. XLIX, No. 3 (March 1965), pp. 156-160.

3. Andersson, Theodore and Boyer, Mildred. *Bilingual Schooling in the United States*, Vol. I & II. Austin: Southwest Educational Development Laboratory, 1970.

4. Bill, Paul. "Bilingual Education in an American Elementary School." Edited by H.H. Stern, *Languages and the Young School Child*. London: Oxford University Press, 1969.

5. Christian, Chester, C. "The Acculturation of the Bilingual Child." *The Modern Language Journal*, Vol. XLIX, No. 3 (March 1965).

6. Ervin, S.M. and Osgood, C.E. "Second Language Learning and Bilingualism." Supplement to *The Journal of Abnormal and Social Psychology*, Vol. XL, No. 4, Part 2 (October 1954), pp. 139-146. (Psycholinguistics: A Survey of Theory and Research Problems)

7. Fishman, Joshua A. "Bilingualism, Intelligence, and Language Learning." *The Modern Language Journal*, Vol. XLIX, No. 4 (April 1965), pp. 227-236.

8. Fishman, Joshua A. "The Status and Prospects of Bilingualism in the United States." *The Modern Language Journal*, Vol. XLIX, No. 3 (March 1965), pp. 143-155.

9. Haugen, Einar. "The Bilingual Individual." Edited by Sol Saporta, *Psycholinguistics: a Book of Readings*. New York: Holt, Rinehart and Winston, 1961, pp. 395-407.

10. Lambert, W.E.; Havelka, J.; and Crosby, C. "The Influence of Language Acquisition Contexts on Bilingualism." Edited by Sol Saporta, *Psycholinguistics: a Book of Readings*. New York: Holt, Rinehart, and Winston, 1961, pp. 408-414.

11. Lambert, Wallace E. "Psychological Approaches to the Study of Language." Part I: "On Learning, Thinking, and Human Abilities." *The Modern Language Journal*, Vol. XLVII, No. 2 (February 1963), pp. 50-62; Part II: "On Second-Language Learning and Bilingualism." *The Modern Language Journal*, Vol. XLVII, No. 3 (March 1963), pp. 114-121.

12. Peal, Elizabeth and Lambert, Wallace E. "The Relation of Bilingualism to Intelligence." Psychological Monographs: General and Applied, Vol. LXXVI, No. 27, Whole No. 546 (1962), pp. 1-23.

13. Penfield, Wilder. "Conditioning the Uncommitted Cortex for Language Learning." Brain, Vol. 88 (1965).

14. Rojas, Pauline. "Instructional Materials and Aids to Facilitate Teaching a Bilingual Child." The Modern Language Journal, Vol. XLIX, No. 4 (April 1965), pp. 237-239.

APPENDIX A

ASSESSMENT INSTRUMENTS

REVIEW OF THE LITERATURE ON ASSESSMENT INSTRUMENTS

1. Dr. David J. Fox, Director, Research and Graduate Studies
   School of Education, City College of New York
   New York, New York 10031

   He and his staff are working on tests of verbal fluency which will be applicable for Puerto Rican students and will be available about January, 1972.

2. Editorial and Marketing Division, Center for Urban Education
   105 Madison Avenue, New York, New York 10016

   The Center Forum, Vol. 4 No. 1, September 1969.

   Description of selected bilingual programs includes testing and evaluation. Bibliography of selected references on teaching and measuring bilingual students.

3. IPAT Culture Fair Intelligence Test

   This test developed by Cattell and published by the Institute for Personality and Ability Testing (IPAT) is available in three levels:

   Scale 1 for ages 4 to 8 and mentally retarded adults

   Scale 2 for ages 8 to 13 and average adults

   Scale 3 for grades 10 to 16 and superior adults

   Fairly extensive verbal instructions are required and may be given in Spanish or English.

4. Leiter International Performance Scale

   This performance test is published by the C.H. Stoelting Company and was designed to cover a wide range of functions (e.g., matching identical colors, forms or pictures; copying block designs, picture completion, number estimation, analogies, series completion, spatial relations and memory for a series.)

   For use with children from 3 to 8 years of age, Dr. Grace Arthur (442-4400) developed an adaptation of this scale which is published by the Sterling Company in Chicago.

5. The Peabody Picture Vocabulary Test

This individually administered test is standardized in English for ages 3 to adult and provides an estimate of the child's verbal intelligence, although the child is not required to speak (i.e., after verbally given the word the child points to a picture of this stimulus). This test is published by the American Guidance Service. A Spanish translation has been developed by the Southwest Educational Development Laboratory, Austin Texas.

6. The Preschool Attainment Record

This teacher rating scale was developed to provide a subjective measure of a preschool child's physical, social and intellectual development. The test was designed to permit assessment of children with speech or language difficulties and is also published by the American Guidance Service.

7. Inter-American Tests of General Ability

These tests are published by Guidance Testing Associates and are available in five levels (from preschool to grade 13). Both English and Spanish editions are available.

8. Inter-American Tests of Reading

These tests are also published by Guidance Testing Associates and are available in five levels from preschool to grade 13.

These instruments represent attempts to assess level of vocabulary, speed of comprehension and level of comprehension of both Spanish and English.

9. Inter-American Tests of Comprehension of Oral Language

This short test published by the Guidance Testing Associates is designed to estimate a child's ability to understand simple expressions read to him in English or Spanish.

10. Inter-American Test of Reading and Number

Also published by Guidance Testing Associates, this instrument attempts to provide an estimate of achievement in reading and in simple numerical operations and may be administered in Spanish or English.

11. Cooperative Inter-American Tests of Language Usage

These tests represent attempts to assess proficiency in active vocabulary and expression of both English and Spanish and are available at the Guidance Testing Associates.

12. Cooperative Inter-American Tests of Natural Science

These tests also published by the Guidance Testing Associates were designed for students in grades 8 through 13 to estimate their ability to read and understand scientific materials written in Spanish and English. Similar tests are available in the Social Studies area.

13. Bilingual Dominance Test

The Bilingual School (P.S. 25), 811 East 149th St., Bronx, N.Y., one of the largest bilingual schools inthe nation, has developed a test in which the pupil answers the same set of questions in Spanish and English in order to determine the relative strength of both languages. Thus a child may be stronger in Spanish than English, vice versa, or may be equilingual on this test. This test is in experimental stages and should be developed further before being used extensively.

14. Self-Esteem Scale

A version of the Self Esteem Scale reported by Coopersmith in "The Antecedents of Self Esteem,"Freeman, 1967 has been translated into Spanish. This checklist has both Spanish items and instructions, but has not been adequately normed. As with checklists in general, reliability can be expected to go down with the increasing discrepancy between the normative and tested groups.

15. The Puerto Rican Study (PRS)

In 1954 The New York City Board of Education instituted a large scale study of the educational needs of the Puerto Rican children entering the school system. This project, known as PRS, resulted in a series of monographs over the next several years summarizing the results and reporting some of the instruments developed by the project staff. Unfortunately these monographs are now out of print and to the best knowledge of this evaluation team none of these tests have ever been used in bilingual schools, ESL classes, or other activities involving Puerto Rican children.

16. Questionnaire for Bilingual Classroom Teachers and Course Critique

This questionnaire was used by Heuristics, Inc., Dedham, Mass. in its 1969-70 evaluation of the Title VII Bilingual Education Project of the Boston Public Schools.

17. WAIS, translated into Spanish

See Herrans, Laura L. "Sex Differences in the Spanish WAIS Score" Dissertation Abstracts, XXX 1432-A, October, 1969.

18. WISC, translated into Spanish

Use of the WISC in Spanish is reported in the following:

John T. Chandler and John Plakos, Spanish-speaking pupils classified as educable mentally retarded. Sacramento: California State Dept. of Education, 1969

Robert Rogers Galvan, "Bilingualism as it related to intelligence test scores and school achievement among culturally deprived Spanish-American children," Dissertation Abstracts, XXVIII (1968, 3021A)

Wm. R. Holland, "Language barrier as an educational problem of Spanish-speaking children," Exceptional Children, XXVII (September, 1960), 42-50

These studies cast some doubt on the desirability of using a general intelligence test on a minority sample such as the children in the Bilingual Clusters. However, if there are meaningful reasons to administer such instruments for screening or diagnostic purposes, it is entirely possible to use such scores, albeit with a good deal of caution and balanced clinical judgment.

STUDENT NAME ______________________ RATING TEACHER ______________________

STUDENT BEHAVIOR RATING SCALE

Following are listed specific behaviors characteristic of students. Please check the one column which best describes the extent to which this student engages in each behavior from your personal observations of the student. (Base all ratings on your personal observations alone.)

ACADEMIC (Linguistic Skills)	always	frequently	sometimes	seldom	never
1. Can follow oral directions given in English	13	19	26	18	15
2. Can follow oral directions given in Spanish	43	24	19	3	2
3. Can follow written directions given in English	10	6	13	14	48
4. Can follow written directions given in Spanish	26	9	14	13	29
5. Makes himself understood when speaking English	12	14	27	21	17
6. Makes himself understood when speaking Spanish	52	20	13	2	4
7. Makes himself understood when writing/printing English	10	10	18	24	29
8. Makes himself understood when writing/printing Spanish	22	13	24	10	22
9. Can read aloud in English so as to be understood	19	3	11	12	46
10. Can read aloud in Spanish so as to be understood	28	5	14	9	35

Frequency distributions are for 91 of the 150 children in the Boston Bilingual Transitional Clusters, May, 1970.

STUDENT BEHAVIOR RATING SCALE

ACADEMIC (Arithmetic Skills)

PLEASE CHECK THE ONE COLUMN WHICH BEST DESCRIBES THIS STUDENT'S ABILITY TO PERFORM THE FOLLOWING ARITHMETIC TASKS.

	Work almost always correct	Majority of work correct	Work one half correct	Majority of work incorrect	Work almost always incorrect
1. Adds single-digit numbers	42	19	0	2	4
2. Adds column of two-digit numbers (with carrying)	36	22	1	1	5
3. Subtracts single-digit numbers	36	22	3	3	4
4. Subtracts two-digit numbers (with borrowing)	30	23	3	3	7
5. Multiplies within ten's table	21	15	4	7	3
6. Multiplies two-digit numbers	20	11	3	6	8
7. Divides (with no decimal involved)	11	2	0	1	9
8. Divides (with decimals involved)	5	2	0	2	10
9. Can establish fractions from subset information	8	5	3	4	3

Frequency distributions are for 91 of the 150 children in the Boston Bilingual Transitional Clusters, May, 1970.

STUDENT BEHAVIOR RATING SCALE

SOCIAL-EMOTIONAL	Always	Frequently	Sometimes	Seldom	Never
1. Distracts other students from work	4	16	32	22	17
2. Stutters	5	3	12	19	52
3. Daydreams	2	14	31	28	16
4. Acts sleepy or lethargic	4	9	29	25	24
5. Asks teacher or aide for help when needed	25	13	37	13	3
6. Listens attentively	15	14	41	19	2
7. Sticks with a task until finished	11	23	33	21	3
8. Responds in class when questioned	17	21	32	15	6
9. Initiates discussion in class	13	10	18	27	23
10. Concentrates on classwork	14	21	34	13	9
11. Mixes with students of same sex	44	33	10	4	0
12. Mixes with students of opposite sex	8	13	43	22	5
13. "Shows off" for others	5	14	14	27	31
14. Exhibits "stage fright" before a group	8	13	27	22	21
15. Is chosen as playmate by other students	16	20	33	14	8

Frequency distributions are for 91 of the 150 children
in the Boston Bilingual Transitional Clusters, May, 1970.

STUDENT BEHAVIOR RATING SCALE

SOCIAL-EMOTIONAL

	Always	Frequently	Sometimes	Seldom	Never
16. Is chosen to work with by other students	6	18	37	22	8
17. Actions are imitated by other students	4	14	41	27	5
18. Directions are followed by other students	4	14	30	36	7
19. Lets other students take a turn	12	36	33	8	2
20. Initiates discussions with strangers	5	11	25	24	26
21. Stays alone	0	18	35	19	19
22. Speaks right up to strangers	7	14	26	28	16
23. Fights when provoked	6	7	26	28	24
24. Provokes others into fighting	3	12	18	21	37
25. Swears	3	12	16	25	35
26. Argues with students	1	18	34	27	11
27. Argues with teachers	1	9	25	24	32
28. Sulks when things go wrong	4	11	33	26	17
29. Bites nails or sucks fingers	0	5	14	17	55
30. Exhibits excessive activity (restless)	8	7	22	29	25

STUDENT READINESS FOR TRANSFER

PLEASE CHECK THE ONE COLUMN WHICH BEST DESCRIBES YOUR JUDGMENT AS TO THE POSSIBLE PLACEMENT OF THIS STUDENT. (Include grade when appropriate.)

	Yes, with certainty	Yes, with reservation	Not sure	Probably not	Definitely not
Has adequate English language skills to allow for grade placement in Boston Public Schools	Grade ____	Grade ____			
Has adequate social-emotional maturity (including motivation) to allow for grade placement in Boston Public Schools	Grade ____	Grade ____			
Is academically prepared for grade placement in Boston Public Schools	Grade ____	Grade ____			

	Boston Public School (state grade & school)	Bilingual Clusters	Bilingual Class	English as 2nd Language	Other (specify)
On the assumption that this is a transitional school, I would recommend that this student be placed in the following school/grade next September					

APPENDIX B

INTERVIEW QUESTIONS

Interview Questions - Head Teacher

1. When, in the history of the Bilingual Clusters, did you become Head Teacher?
2. Who made the decision to appoint you to that position, and to whom are you responsible in your work?
3. What is your formal relations with EDC?
4. What are the resources available to you through the Boston Public Schools?
    a. How would you distinguish between the Bilingual Clusters and any other school in the Boston Public Schools in administrative terms?
5. Given the differences mentioned above, what are the most important differences to you in the running of the Bilingual Clusters?
    a. Would you suggest any administrative changes in the relations between the Bilingual Clusters and the Boston Public Schools?
    b. Would you suggest any changes in the internal organization of the Bilingual Clusters?
6. Did you participate in any way in the hiring of the teachers or aides last year?
    a. Who else was involved in the hiring practices?
7. What about this year?
    a. What criteria were used in selecting teachers for the Bilingual Clusters?
    b. What criteria for the aides?
8. How many of the teachers of last year returned this year?
    a. Why did they not return?

   b. Why did the others return?
   c. What differences are there between those who returned and those who did not?
   d. What differences between those who did not return and those who were hired to replace them?

9. How many of the aides of last year returned this year?
   a. Why did they not return?
   b. Why did the others return?
   c. What differences are there between those who returned and those who did not?
   d. What differences between those who did not return and those who were hired to replace them?

10. Would you say that the criteria for hiring teachers changed or did not change from last year to this year? Why? What did or did not change?

11. If there were changes in the criteria for teachers, to what extent did the characteristics of the children contribute to the changed criteria (did you look for different kinds of teachers because you learned that children needed different kinds of teachers)?
    a. Did the parents contribute to the change in criteria?
    b. Did the aides contribute?
    c. Did the teachers contribute (did they indicate the kind of teachers they believed might be necessary here)?
    d. Did the Boston Public Schools contribute?

12. If you were to develop a curriculum for a pre-training program for teachers, what are the most important areas you would want covered? If you were to have an in-service training program for the teachers, what would the most important topics for the program be?

13. If you were to develop a curriculum for a pre-training program for aides, what are the most important areas you would want covered? If you were to have an in-service training program for the aides, what would be the most important topics for the program?

14. Did EDC develop such curriculum for workshops? How would you say the EDC workshops are similar to the ones you have just described? How would you say the EDC workshops differ from what you have described?

    a. Is the difference in terms of the balance between social/emotional growth vs. academic/linguistic growth or relatively structured vs. open/permissive class organization?

15. What services from EDC would you have liked to have received that you did not get? Of the services you did get, what were the most and least valuable?

16. Would you prefer EDC to continue its relation with the Bilingual Clusters or to stop, or to change the nature of the relationship?

17. Ideally, should the Bilingual Clusters be a true transition school, a Spanish school, a Bilingual school, or some other kind? What model would you suggest for these children?

    a. Are there skills and understandings that the Bilingual Clusters children can best get in a Bilingual school or can they get them all from the Boston Public Schools?

18. How many children are now attending? Is this an increase or decrease from last year? Why?
19. What would you say is your most outstanding need(s) at the moment?

Interview Questions - The Teachers

1. Have you ever worked with an aide before?
2. Distinguish between an aide and a co-teacher.
3. Distinguish between a professional and a paraprofessional.
4. How would you characterize the person working with you (in terms of the four titles stated above)?
5. In general, what are the major needs for which training is appropriate for the kind of people who are working in the Bilingual Clusters (other than teachers)?
6. What kind of training would you like your worker to have in order to work best with you in your class?
7. What kind of skills did you aide pick up at the workshop?
8. Were you able to capitalize on that training?
9. How many children were involved?
10. How were they selected to participate in the activities covered in the aides' workshops?
11. Was the aide able to carry off the activity profitably for the children?
12. Did the activity speak to an important need of the children?

Interview Questions - The Aides

1. Have you ahd any teaching experience prior to the Bilingual Clusters?
2. Where did you go to school? How far did you get?
3. When you took this job, what did you understand the duties of an aide to be?
4. Of those duties you just mentioned, which ones did you like to try the best? Which ones did you think you might have the greatest problems with?
5. What do you do in the classroom now?
6. Of those mentioned above, which two do you spend the most amount of time on over the week? The two least amount of time?
7. Are there activities you think should be carried out by ou in the classroom which you are not doing?
8. What are the most important problems which are found in your classroom?
9. Which of these problems do you think you should be helping with the most?
10. In order to help with any of these problems which do you think you are most in need of training and practice in order to deal with? Which do you think you are least in need of training?
11. Did you attend any EDC workshops? Which ones, for how long?
12. What was the specific content of the workshop?
13. How was this workshop related to your everyday behavior at school?

14. If applied to children: a) how many children? how often?

    b) Who decided which children and when you worked with them? (Did you help organize the classroom to allow you to use the materials of the workshop or was this the decision of the teacher?)

15. Was your teacher aware of the skills you acquired in the workshop or did you have to explain them?

    a) Did your teacher know how to do the things you learned in the workshops?

    b) Did you plan with the teacher what you might get out of the workshop? Did you discuss with the teacher whether you should go to a workshop? If yes, did the teacher suggest what you might want to study there?

    c) Did the teacher use your new skills adequately?

16. Are there many children in your class who are ready to enter the Boston Public Schools?

    a) What makes you think that a child is or is not ready?

17. If a child is ready (as defined above), should he go into the Boston Public Schools or stay in the Bilingual Clusters?

18. If you had a choice, would you rather work in the Bilingual Clusters or in a class in the Boston Public Schools?

APPENDIX C

TEACHER AIDE WORKSHOPS

January - May 1970

WORKSHOPS FOR TEACHER AIDES IN BILINGUAL CLUSTERS

January 27 to May 21, 1970

Workshops for the aides in the bilingual clusters were begun on January 27, 1970 with aides at the Denison House cluster and the following day with aides from the Old Boston College High School cluster. The aides were picked up at 10:00 A.M. and returned at noon to their respective cluster. All the workshops were held at the EDC Resource Center, 455 Blue Hill Avenue, Roxbury, and eventually settled into a schedule of the Old Boston College High School cluster aides on Wednesday mornings and the Denison House cluster aides on Thursday mornings.

The theme of the workshops was adopted from THINKERS -- Ideas for Independent Activities developed by the Southwestern Cooperative Educational Laboratory. As explained in the publication:

> The term "thinker" is a label for a variety of individual activities and games which a teacher can help make for classroom use. They are designed to help children learn many of the concepts and skills they are expected to know early in school, or to provide practice for things first presented by the teacher. The "THINKERS" themselves are games and tasks made from economical and familiar materials such as magazines, cards, paper, common objects available in most situations. They may be as simple or as fancy as time, materials and money permit.

One expectation was that after the aides had gained some experience in making some simple teaching materials, they would then be able to create ones that would be helpful for particular children and for particular educational objectives.

The workshops were initiated at the request of the teacher-in-charge, Carmen Necheles, because she felt that the aides needed to feel important and perhaps learn some things they could teach the teachers as well as the children. It was agreed to have Rosly Walter set up workshops in making "THINKERS" with which she had become acquainted in the SWCEL Institute at Mesa, Arizona.

The teachers expressed mixed reactions about the workshops for the aides, since they needed the aides' assistance in the classrooms, but at the same time wanted the materials the aides made in the workshops. The decision as to whether an aide would attend a workshop or remain in the classroom was the teacher's at all times, and at times an aide did not attend because she was needed in the classroom.

Initially there was a lack of communication with the teachers concerning the purpose and plans for the workshops. This was partially rectified by Rosly Walter talking with the teachers when she picked up the aides. It is questionable whether or not all the teachers really understood, since some may have accepted the aides leaving as a condition they had to accept.

Prototypes of several "THINKERS" were available for the first meeting, including Matching Spots and Numerals, Pattern and Color, Alphabet Match, and a lotto game of animals, fruits, colors, etc. made using gummed seals available from stationary stores. (Descriptions and directions for all materials appear in the appendix.) Shoe boxes had been obtained for storage in the classrooms. Later plain white boxes 9" x 12" x 1" were also made available.

The first two workshops were spent almost entirely in making the lotto game using gummed seals. People worked together preparing the cards and pasting the pictures in the appropriate spaces. The game requires few directions and was used immediately in the classrooms.

Each week there was at least one new "THINKER" or game to explore and make. Generally the aides were free to choose among the prototypes available. Several workshops were devoted to making puppets which were quite well received by children and teachers alike.

After some of the early workshops the aides returned to their classrooms with materials, such as the Mill Game and Kalah, which they had learned to play in the workshop, but not well enough to teach children the next day. This gap was bridged partly by the teachers, some of whom came to the Resource Center with their questions, and learning to play the games themselves, and by having the instructions duplicated and distributed. Had weekly workshops with the teachers materialized, some time could have been used to keep the teachers informed about what the aides were doing. In the end, the method that met with the most approval were the sheets of instructions, copies of which are in the appendix.

Requests from teachers for materials such as numeral and alphabet matching games, sets of cards with pictures of items commonly used in homes and beads ranging in number from one to ten strung on separate pieces of string were honored.

The workshops were open to the aides in the Title VII classrooms and some attended when they could be released and had transportation. Six teachers, from the South End Headstart Program, under the leadership of Miss Tanny Orvell attended the workshop on February 12, 1970. On March 18, 1970, a workshop was held after school and was open to the teachers and aides from all programs for non-English speaking children, the community schools, and the schools of the districts in which the bilingual clusters were located. Some of these people dropped in other afternoons to make more materials.

The first item that most visitors made was the picture lotto game, which proved to be a very good initial material to construct. Another popular set were the "math games" including Kalah, and Oyo or Oware requiring only a twelve cube plastic ice cube tray and lima beans; multiplication and addition lottos; Chinese Jumping Game, Oxbow Puzzle and Mill Game using scraps of tri-wall and colored match sticks; a German game entitled Mensch Ärgere dich nicht! renamed Cool It! was contributed by Elaine Chin, a community person who frequently joined the workshops.

Sets of Attribute Blocks (an Elementary Science Study unit) were provided for the classrooms and several workshops were devoted to teaching the aides some of the games played with the blocks. This proved to be the least effective of the materials introduced in terms of the aides using them with children. The concepts in general were quite difficult for the aides, so they were quite skeptical about using them with children from the standpoint of whether the children could understand, as well as, whether they could stay ahead of the children if the children did understand the games. The games were quite helpful in getting to know the aides and in providing a framework to discuss some pedological theories. For instance, when the aides were asked to sort the blocks according to certain rules (those different in one way, two ways and three ways from a given block) they would make a guess and then took to me to tell them whether it was right or wrong. After having the aides verbalize in what ways certain blocks were different from a given block, and being relatively sure they understood the directions, I would go away to make a telephone call. When I returned, they were "finished", the blocks sorted into three piles waiting for me to indicate whether they were right or wrong. I tried to emphasize many times in many ways that one value of the blocks was that children could determine for themselves when they were right and did not need an adult or teacher to do this. Some people would point out that Puerto Ricans value adult authority and I was attempting to undermine that authority. This highlights one dichotomy of Puerto Rican and **mainland** educational practices.

One game the aides did enjoy was arranging the blocks in a pattern and then having one person close their eyes while another removed some of the blocks. The person who had closed his eyes then had to decide which blocks had been removed when his eyes were closed. To my knowledge the aides did not use the blocks with the children in the classrooms, and some of the teachers did not know the aides were familiar with some of the games that can be played with the blocks until I told them.

The week before the last workshop session the aides and teachers were told that the next workshops would be the last, and they should be thinking about the materials they wanted made. On Wednesday, one aide from the Old Boston College cluster said that she wanted letters to make words. She took a printed cardboard sheet of letters, masking tape and clear Contact, and put together various letters to make commonly used Spanish words. The masking tape on one side and the clear Contact on the other made the letters into cards that were stiff and durable. She then wrote the same words on a large sheet of paper, so that the children could put the detached word on top the same word written on the paper. The next day, two aides from the Denison House cluster, said that they needed some material for reading and when I explained what had been done the day before they liked the idea except they wanted to match words with pictures. In the end, they put the letters together the same way using masking tape and clear Contact, but then cut cards from tag board and pasted pictures on the cards that matched the Spanish words. I was delighted to witness the fulfillment of the expectation stated on page one.

It seems clear that the workshops achieved the objective of making the aides feel needed and important. In general they enjoyed coming to the Resource Center, where they could drink coffee, smoke and chat while working. All their conversations in Spanish were clearly confidential since no one in the Resource Center understood Spanish!

The value of the materials for the children in the classes varied directly with how much the teacher knew about the materials including how and for what purposes they could be used with children. As indicated earlier there was a serious communication gap at the beginning which may have been closed in most cases but clearly not in all. For maximum effectiveness the teachers should be acquainted with the materials the aides make and when possible attend the same workshop.

Lovely Walter
June 25, 1970

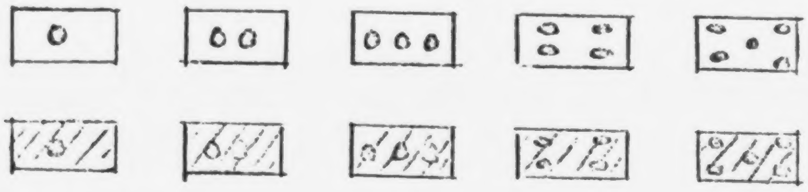
From: *THINKERS -- IDEAS FOR INDEPENDENT ACTIVITIES*, developed by Southwestern Cooperative Educational Laboratory.

NUMBERS

Matching Spots

Objective: Child will demonstrate ability to match spots. More advanced child will place the pairs in sequential order from 1 - 5.

Materials:
1. Five white cards with spots 1 - 5 (i.e.,
   1 card with 1 spot unit
   1 card with 2 spots unit)
2. Five blue cards identical to white cards



Procedure: Child finds the 5 white cards and lays them out from left to right on table or floor from 1 - 5. He then tries to match the identical blue cards.

Note: Immature child may match pairs without being able to sequence correctly.

NUMBERS

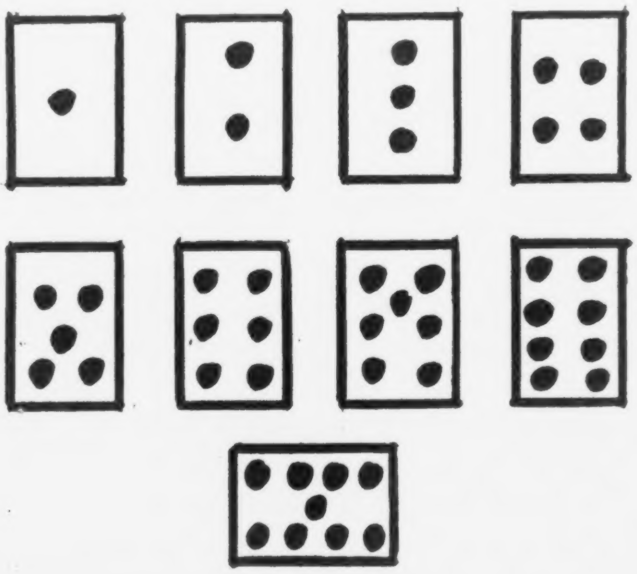
Matching Spots and Numerals

Objective: Child will show his ability to match spots with the numeral that represents the number of spots from one to nine.

Materials:

1. Nine white cards with spots 1- 9 (i.e., 1 card with 1 spot unit, 1 card with 2 spot unit, etc.)
2. One large card with numerals 1 - 9 randomly arranged.

5	3	7
8	1	4
2	6	9



Procedure: Child places card with one spot on the space occupied by the numeral 1, and so on until all numerals are covered by cards with the proper number of spots.

Note: Numerals could be covered by lima beans used in place of cards.

From: THINKERS -- Ideas for Independent Activities

COLOR

Pattern and Color

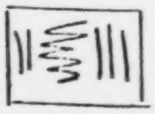
Objective: Child will show his ability to discriminate between colors and patterns by matching wallpaper squares with the appropriate box.

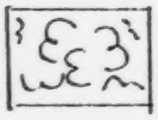
Materials:
1. With black magic marker, divide bottom inside of box into eight squares. Paste eight different colored and patterned wallpaper squares in each square.
2. From same eight pages of wallpaper cut an identical square for each.
3. Four squares of the same pattern but different colors.
4. Four squares of different patterns, but same colors.

Procedure:
1. Child will sort through the wallpaper squares and find the matching ones.
2. He will match each by placing it in the proper square.

Suggested colors for each square are written in the diagram:

blue	red	pink	green
yellow	purple	brown	white





From: THINKERS -- Ideas for Independent Activities

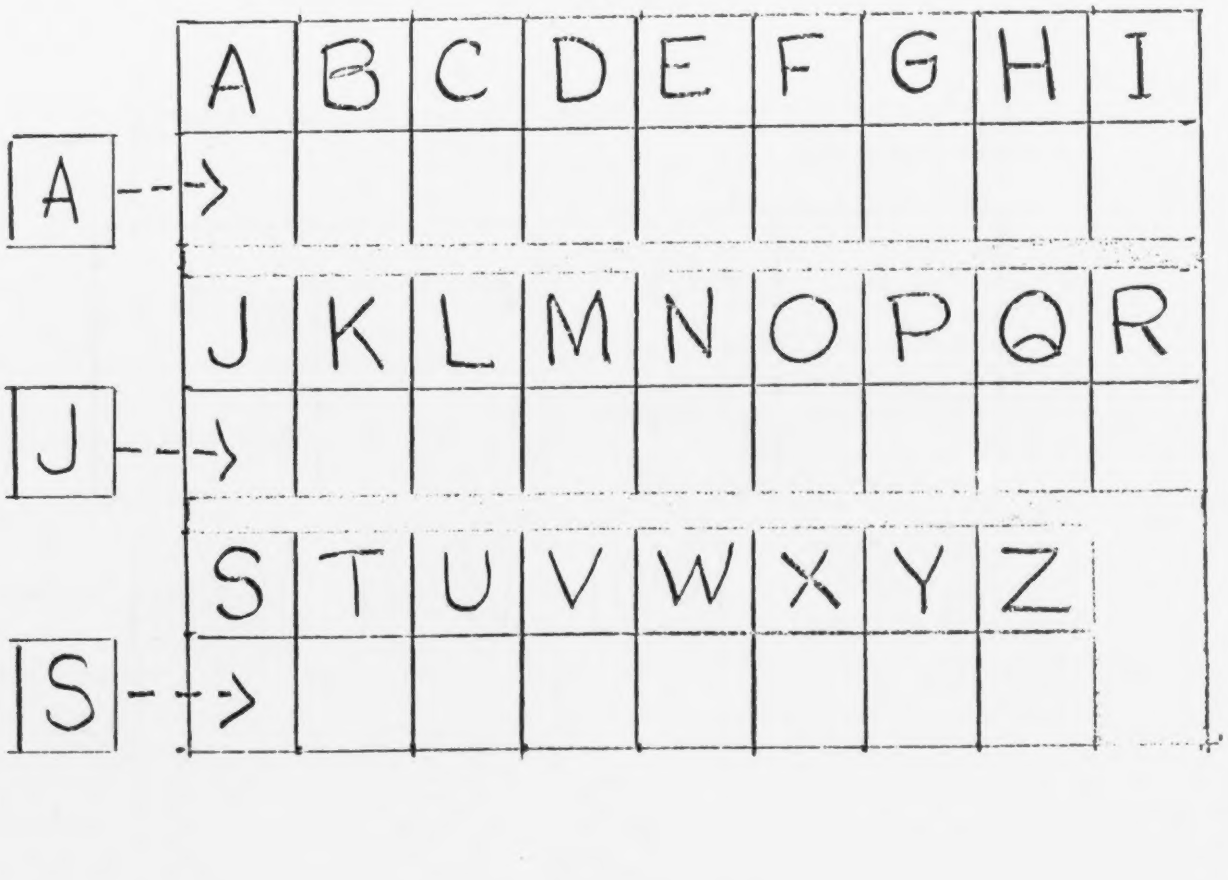
ALPHABET

Alphabet Match

Objective: Child will show his ability to match letter shapes by placing the letters in the correct squares.

Materials:
1. Folded sheet blocked out into 54 squares (nine squares across and six squares down.) Rows one, three and five have capital letters of the alphabet printed on the sheet with a felt pin.
2. Alternate rows are left blank. (See Diagram.)
3. Oaktag cards, cut to fit into blank squares, with a capital letter of the alphabet printed on it.

Procedure: Child spreads out the folded sheet on floor or table. He then goes through the pile of alphabet cards (that are mixed up) and matches the oaktag letters to printed letters on the sheet.



LOTTO

Materials:

1. Oak tag, poster board, shirt cardboards, or any other light weight cardboard, for making cards divided into 5 x 5 squares and 38 2" x 3" cards.
2. Red, yellow, green, blue and brown magic markers.
3. Thirty two different gummed seals available from the stationary store, or pictures cut from books, magazines or catalogues. (Four of each object or animal.)
4. Dried lima beans, buttons, small pieces of cardboard, or anything else available to cover pictures on cards.

To Play:

One student calls the name of the object, animal, color, etc. an a small card, while the other sutdents cover the picture on the lotto card. This continues with names being called until one student has five beans in a row, column or diagonal.

Sample Cards:

1. flower
2. rabbit
3. rooster
4. goat
5. elephant
6. orange
7. bear
8. bird
9. airplane
10. yellow
11. peach
12. lion
13. deer
14. seal
15. butterfly
16. green
17. tiger
18. hippopotamus
19. kitten
20. brown
21. red
22. cherries
23. duck
24. pear
25. car
26. strawberries
27. horse
28. calf
29. grapes
30. dog
31. pig
32. blue
33. apple
34. cow
35. sheep
36. pony
37. fox

15	24	25	27	10
29	26	31	22	7
17	6	Free	36	28
38	3	34	32	23
33	37	35	8	30

25	31	35	3	1
10	22	36	20	8
6	27	Free	26	32
30	13	21	11	28
34	4	33	37	16

24	25	19	9	26
27	15	28	29	14
5	30	Free	31	2
12	32	38	33	34
35	23	36	37	21

1	2	3	4	5
6	7	8	9	10
11	12	Free	13	14
15	16	17	18	19
20	21	22	23	24

From: THINKERS -- Ideas for Independent Activities

CATEGORIZATION

Classification Game

Objective: Child will identify the word card or picture that has the characteristics of two classes by placing the correct picture in the blank square.

Materials:

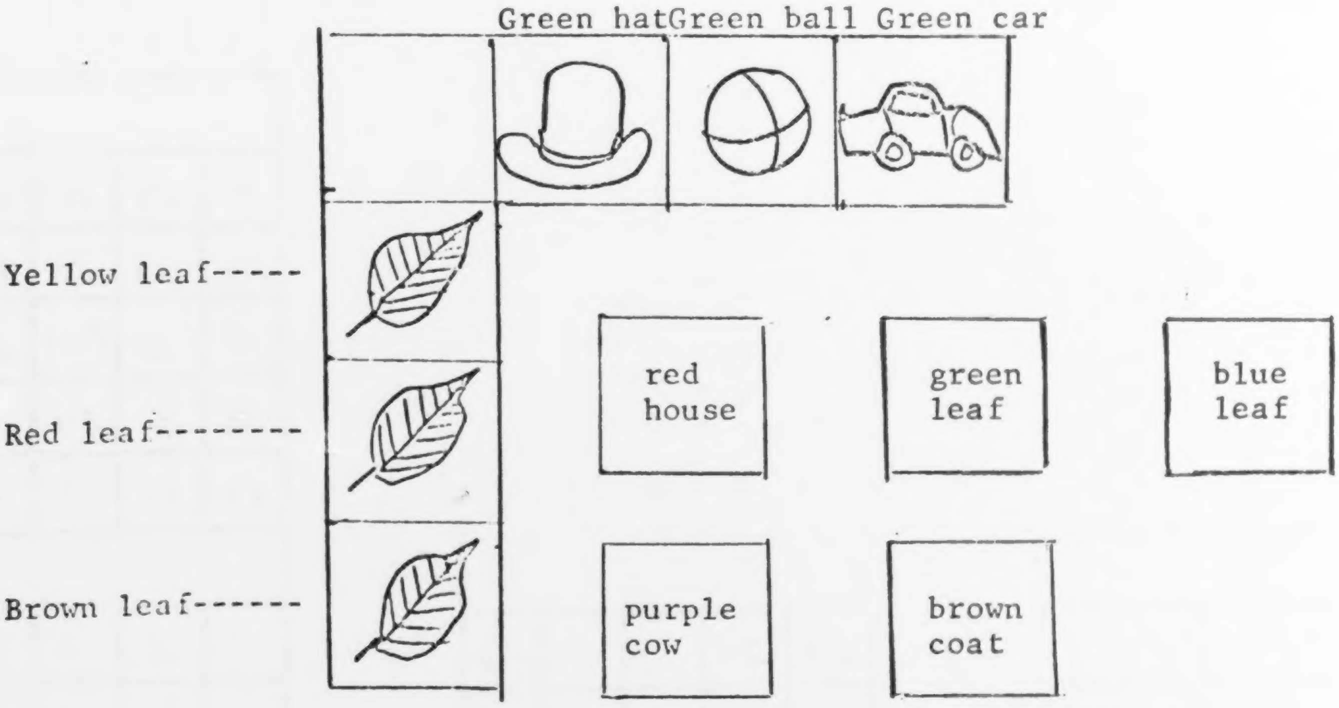
1. Five L-shaped strips of oaktag divided into squares with intersecting square left blank.

   Each row of squares will have something in common such as a certain color or shape.

   Each L-strip will be outlined in a different color.

2. Twenty five separate squares outlined (five each) in the five different colors.

Example:



Procedure: Child takes out one L-shaped strip and finds the five squares of the same color. He must decide which squares go in the blank square because it has characteristics of both rows. He follows the sample procedure for the next four.

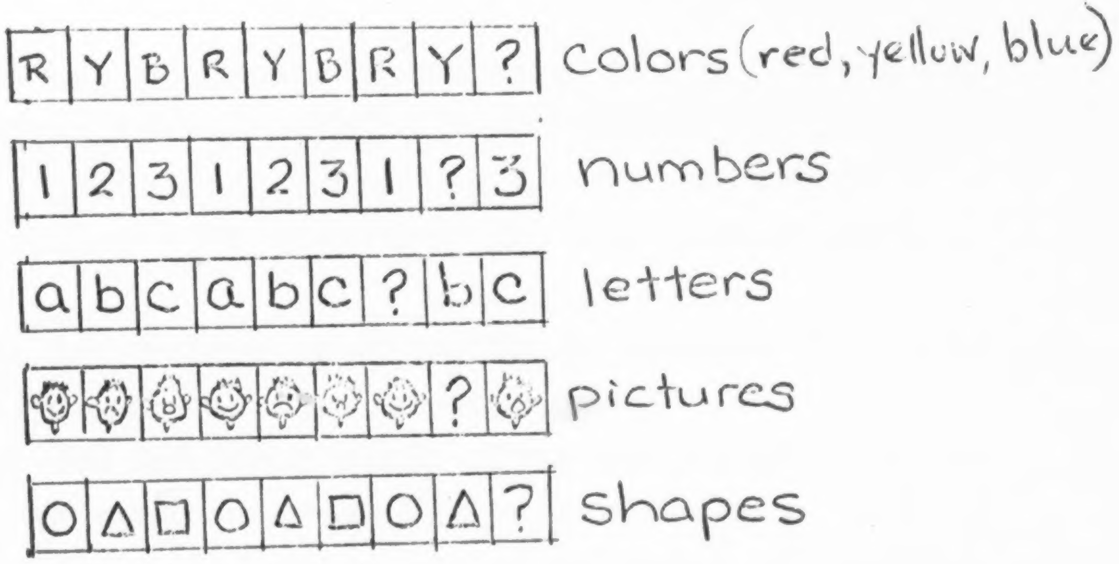
From: THINKERS -- Ideas for Independent Activities

SEQUENCE

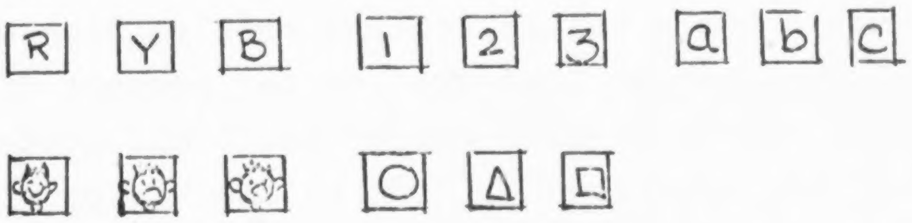
Order of Progression

Objective: The child will recognize the pattern of a simple series in its order of progression by filling in the empty squares.

Materials: 1. Five oaktag strips marked off into nine boxes. Draw or write in a series of colors, numbers, letters, pictures, shapes--leaving one of the last 3 squares blank.



2. Fifteen cards the size of the blank squares--one card for each figure.



Procedure: The child lays out the 5 oaktag strips, one under the other. He then goes through the stack of cards and finds the correct one to fill in the blank box.

EASILY CONSTRUCTED GAMES FOR TEACHING MATHEMATICS

LOTTOS

Sometimes called Bingo, these games can be constructed from inexpensive materials for a large variety of facts that may need to be learned. The cards can be made of oak tag, poster board, shirt cardboards, or any other light weight cardboard. The cards are divided into squares either 5 x 5 or 3x 3 with the center square marked FREE. (See page 3 showing examples of possible cards.) Generally the 5 x 5 are used with older children and the 3 x 3 with younger or more difficult concepts (see: Fraction Bingo by Nancy Cook in The Arithmetic Teacher Vol. 17 no. 3 March 1970)

Multiplication Lotto

Materials:

1. Six cards 5 x 5 with common products of numbers from 1 to 9. (See page 3 showing examples of possible cards.)
   a. A harder game could be constructed using products of numbers over 10, but generally this is not as useful as those 1 to 9.
2. 45 2" x3" cards with products indicated but not given (i.e. 3 x 4). Some teachers may wish to write the product on the back of the card. This provides the temptation to play "regular bingo" and does not involve the student calling the products in the multiplication.
3. Dried lima beans, buttons, small pieces of cardboard, or anything else available to cover numerals on cards.

To Play:

One student reads a multiplication problem from a small card while the other students cover the name for the product on their card. This continues with products being called until one student has five beans in a row, column or diagonal. Can be checked by finding products among "used" cards that match covered numerals.

Fraction Lotto

(see: Fraction Bingo by Nancy Cook in The Arithmetic Teacher vol. 17 no. 3 March 1970)

Materals:

1. Six cards 3 x 3 with various names for the more frequently used fractional numbers. (See page 3 showing examples of possible cards.)

2. 15 cards 2" x 3" with names of simple fractions (For car shown on page the fractions are $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{6}$, $\frac{1}{7}$, $\frac{2}{3}$, $\frac{3}{4}$, $\frac{2}{5}$, $\frac{3}{5}$, $\frac{4}{5}$, $\frac{5}{6}$, $\frac{2}{7}$, $\frac{3}{8}$, & $\frac{5}{8}$)
3. Dried lima beans, buttons, small pieces of cardboard, o anything else available to cover numerals on cards.

To Play:

One student reads a fractional name from a small card while other students cover another name for the same fraction on their card. This continues with successive small cards read until a student has three beans in a row, column or diagonal. Can be checked by matchin equivalent fractional names.

Addition Lotto

Materials:

1. Two cards with 3 x 3 squares with one having the numera 2,4,5,6,7,8,9, & 11 and the other 3,5,6,7,8,9,10 & 12. The center square of each is marked "+". (See Page 3)
2. A pair of dice
3. Dried lima beans, buttons, small pieces of cardboard, or anything else available to cover numerals on cards.

To Play:

One student rolls the dice and covers the numeral on his car that is the sum of the numbers indicated uppermost on the dice if it occurs on his card. The other student does likewise and the play continues in this manner until one student has three beans in a row, column or diagonal.

Examples of possible cards for multiplication, fraction and addition lotto games

28	35	48	36	1
24	18	4	25	16
42	2	X	21	10
8	49	64	30	56
72	32	40	15	12

35	12	16	8	18
21	45	24	6	64
30	27	X	72	28
9	15	40	54	42
48	20	63	1	36

7	45	42	64	54
56	40	15	30	14
18	48	X	35	32
36	72	10	24	3
27	12	6	21	16

25	8	15	20	64
49	32	14	10	36
40	63	X	12	6
72	28	56	3	27
81	24	16	54	35

5	56	81	28	48
12	63	21	9	45
49	27	X	25	20
32	15	54	6	36
16	24	2	14	72

30	63	27	35	49
54	72	12	14	3
24	7	X	32	64
10	42	6	81	20
25	18	45	36	15

$\frac{4}{8}$	$\frac{6}{21}$	$\frac{25}{100}$
$\frac{10}{12}$	✿	$\frac{3}{15}$
$\frac{6}{9}$	$\frac{8}{20}$	$\frac{8}{10}$

$\frac{2}{12}$	$\frac{6}{20}$	$\frac{2}{8}$
$\frac{10}{16}$	✿	$\frac{9}{15}$
$\frac{4}{28}$	$\frac{3}{9}$	$\frac{6}{8}$

$\frac{4}{24}$	$\frac{15}{18}$	$\frac{3}{12}$
$\frac{6}{16}$	✿	$\frac{12}{20}$
$\frac{2}{4}$	$\frac{20}{100}$	$\frac{6}{15}$

$\frac{15}{24}$	$\frac{4}{12}$	$\frac{8}{28}$
$\frac{4}{6}$	✿	$\frac{50}{100}$
$\frac{2}{10}$	$\frac{12}{15}$	$\frac{3}{21}$

$\frac{4}{14}$	$\frac{6}{10}$	$\frac{3}{6}$
$\frac{4}{16}$	✿	$\frac{20}{24}$
$\frac{20}{32}$	$\frac{9}{12}$	$\frac{3}{18}$

$\frac{4}{10}$	$\frac{2}{6}$	$\frac{9}{24}$
$\frac{60}{100}$	✿	$\frac{4}{20}$
$\frac{2}{14}$	$\frac{12}{16}$	$\frac{8}{12}$

3	6	9
8	+	5
10	12	7

2	5	11
7	+	4
9	6	8

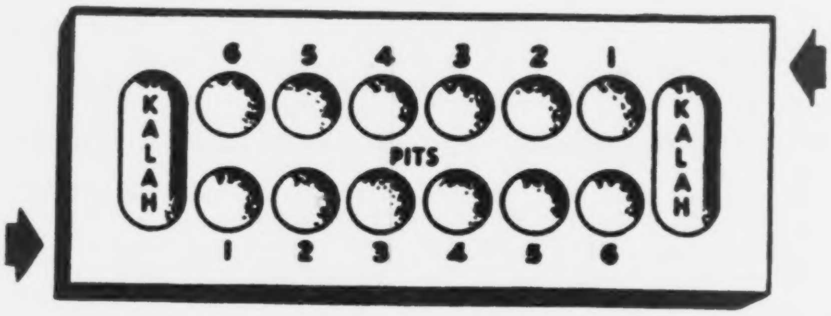
KALAH RULES reprinted from 1956 RECREATION KIT issued by UNICEF— United Nations, New York.

BELGIAN CONGO

THE KALAH GAME* 2 players

One of the world's oldest games, possibly of Egyptian origin, which is played throughout Africa and the Far East is a pebble game. It is known by many different names and each area has different rules, some highly complicated. In the United States it is played according to the rules given below. The game is played by all age groups. The Arabs call it Mancala, or "The Game of Intelligence".

A Kalah Board can be improvised by using muffin tins or plastic ice-cube trays. Two round rows of six pits are needed, with an oval-shaped Kalah pit at either end of the rows. Counters can be made from beans, small pebbles or seeds.

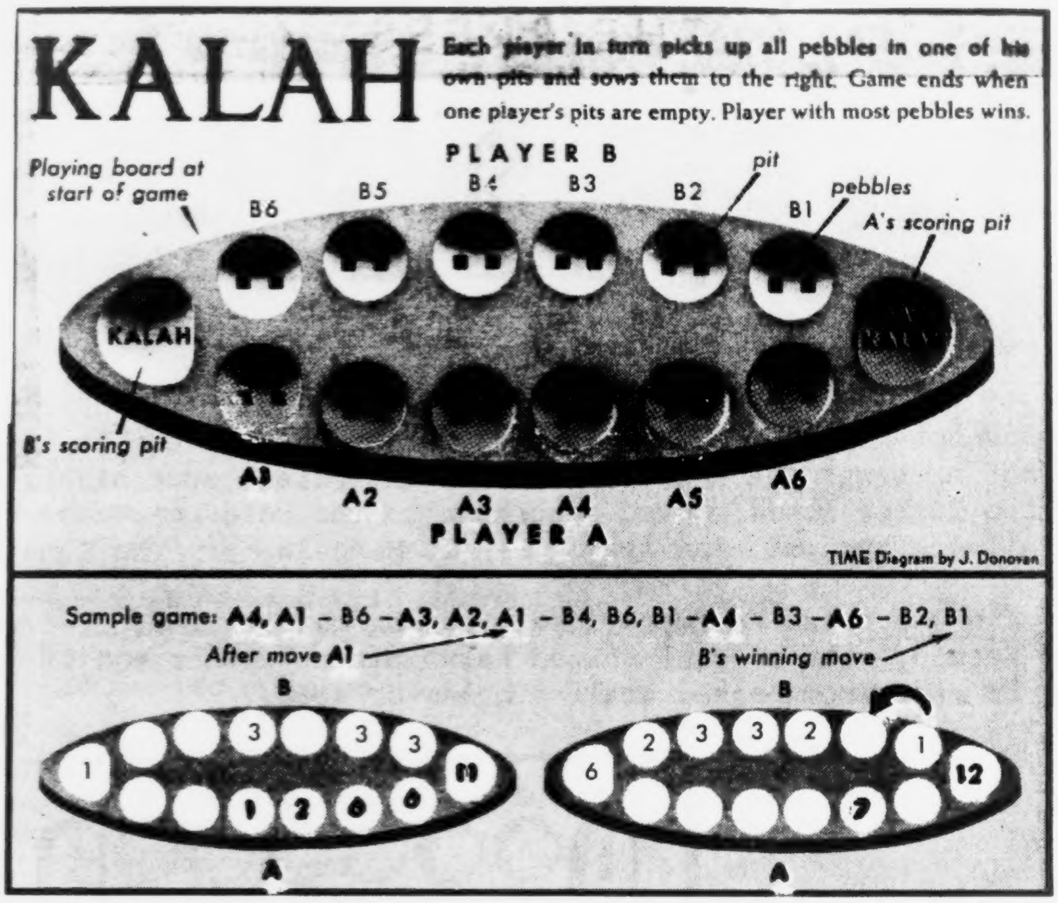


1. A game ends when one player reaches a score of forty. The number of counters in each pit at beginning of game depends upon time available and age of players. For beginners, 3 counters are placed in each of 12 pits. Each player controls a row of six pits on his side.

2. The movement of counters is always to the right, and each player's Kalah is the Kalah to his right. Object of the game is to get the largest number of counters in his Kalah, and a game is over when one whole row is empty.

3. First player begins by emptying any one of his pits and distributes counters one by one in pits as far as they go. If there are enough to reach beyond his Kalah he distributes counters into opponent's pits and counters belong to him. The ONLY pit ever skipped is opponent's Kalah. Once in either Kalah the counters remain until end of each game. The method of distribution has two simple rules:
   a) If last counter lands in player's own Kalah player gets another turn. By planning to have right number of counters in two or more pits it is possible to have several turns in succession.
   b) If last counter lands in an empty pit on player's own side he captures all counters in opposite pit and places them with the one making the capture into his own Kalah. A capture ends a player's turn. Player's turn ends also if in distributing counters the last counter lands in any pit other than player's own Kalah.

The game ends when all pits on one side are empty. Counters remaining on the other side go into the Kalah on that side. The score is the number captured from the opponent. The score is quickly counted by restoring the original number of counters in each pit. For instance, if one side has four left over, his score is four to nothing. A series of games ends with a score of forty on one side.


KALAH
Each player in turn picks up all pebbles in one of his own pits and sows them to the right. Game ends when one player's pits are empty. Player with most pebbles wins.
PLAYER B
Playing board at start of game
B6
B5
B4
B3
B2
pit
B1
pebbles
A's scoring pit
KALAH
B's scoring pit
A1
A2
A3
A4
A5
A6
PLAYER A
Sample game: A4, A1 – B6 –A3, A2, A1 – B4, B6, B1 –A4 – B3 –A6 – B2, B1
After move A1
B's winning move
B
1
3
3
3
11
1
2
6
6
A
B
6
2
3
3
2
1
12
7
A

TIME Diagram by J. Donovan

GAMES

Pits & Pebbles

Carved on a vast block of rock in the ancient Syrian city of Aleppo are two facing ranks of six shallow pits with larger hollows scooped out at each end. The same design is carved on columns of the temple at Karnak in Egypt, and it appears in early tomb paintings in the valley of the Nile. It is carved in the steps of the Theseum in Athens, and in rock ledges along caravan routes of the ancient world. Today the same pits and hollows are to be found all over Asia and Africa, scratched in the bare earth, carved in rare woods or ivory inlaid with gold. And they are turning up in rapidly increasing numbers in the U.S.—in public playgrounds, on town-house coffee tables, and even in the programmings of computers.

The design is the basis of one of the oldest games in the world, ancestor of the abacus and of backgammon, dominoes and mah-jongg. Its most popular U.S. incarnation—called Kalah—is the life work of a spry 82-year-old retired financial counselor, who is suddenly hard put to keep up with the demand.

The Ur-Game. In 1905, the year he graduated from Yale, William Champion read an article about an exhibit of African game boards at the Chicago Exposition of 1893 in which the author noted that Kalah "has served for ages to divert the inhabitants of nearly half the inhabited area of the globe." Fascinated by the failure of such a pandemic pastime to catch on in the U.S. and Europe, Champion began tracing its migrations and permutations.

He found an urn painting of Ajax and Achilles playing it during the siege of Troy; he found African chieftains playing for stakes of female slaves, and maharajahs using rubies and star sapphires as counters. He finally traced it back some 7,000 years to the ancient Sumerians, who evolved the six-twelve-sixty system of keeping numerical records.* Out of this system of record keeping, the Sumerians developed this ur-game of board games.

Matches or Diamonds. The two players sit behind the two ranks of six pits on the board between them. Each pit contains three (for beginners) or six "pebbles" (which may be anything from matches to diamonds). Purpose of the game is to accumulate as many pebbles as possible in the larger bin (kalah) to each player's right. Each player in turn picks up all the pebbles in any one of his own six pits and sows them, one in each pit, around the board to the right, including, if there are enough, his own kalah, and on into his opponent's pits (but not his kalah). If the player's last counter lands in his own kalah, he gets another turn, and if it lands in an empty pit on his own side, he captures all his opponent's counters in the opposite pit and puts them in his kalah together with the capturing pebble. The game is over when all six pits on one side or another are empty. It is not always an advantage for a player to go "out," since all pebbles in the pits on the opposite side go into the opponent's kalah. The score is determined by who has the most pebbles.

A sophisticated player learns not to accept all short-term advantages, however tempting. Thus, in the game illustrated, Player A began by moving the three pebbles in his pit A4, ending in his kalah and thus earning another move, which he used to play from pit A1, ending on empty pit A4 and thereby capturing B's men. By similar maneuvers and captures, A, by the fourth turn, has become pebble proud, with eleven in his kalah to a pathetic one in B's (*see diagram*). But A is dangerously concentrated in the two pits A5 and A6. B, seeding six pebbles on his own side, forces A to start distributing his hoard around the board. By the eighth turn (*see diagram*), A still has twelve in his kalah to five in B's; but B moves the five pebbles in B2 and then has only to move the single pebble in his pit B1 to capture A's seven remaining pebbles—ending the game and winning it by a score of 24 to 12.

The Wily Computer. In 1940, Champion set up a small company to market the game under the name Kalah, which he concocted from South Africa's Kalahari Desert, where the natives play by scooping out pits in the sand. Since then, Champion has sold some 75,000 sets to hospitals, the Red Cross, UNICEF, institutions for the blind, church organizations and schools.

Some of Champion's best customers are the recreation departments of major cities, including New York, Chicago, Los Angeles and Boston. "Kalah's the greatest thing that's hit our playground system in years," says Patrick Ryan, director of Boston's recreation department, which has thousands of children playing it in some 150 playgrounds. "With Kalah you know the kids are learning their arithmetic and putting their minds to work in the best way possible."

Intrigued by the high number of mathematical combinations in the game, M.I.T.'s computer wizards programmed a PDP-1 computer for Kalah, which clobbered Champion Champion consistently after the first try. "I didn't have a chance," he said gamely. "The computer eluded every one of my traps. It can think so many moves ahead that it's impossible to beat."

In his small plant at his son's electronics firm in Holbrook, Mass., Champion turns out 24 styles of board, ranging from $4.50 to $25 (up to $250 for custom-made models), and is currently negotiating with a company equipped to turn out the boards at the rate of 10,000 or more a week.

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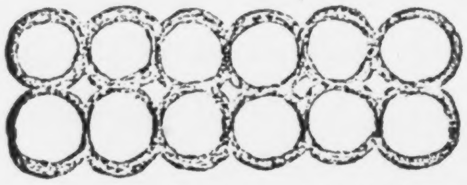
* Relics of this system in today's largely decimal world include the twelve-hour watch, the twelve-month year, and the round dozen.

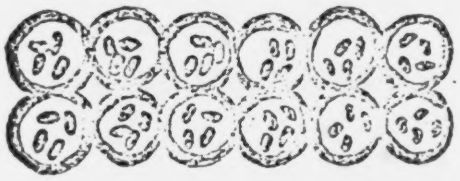
AN AFRICAN GAME

The game is called Oyo in Nigeria and Oware in Ghana (this is a simplified version).

Some boards are very beautifully carved. However, sometimes people play with holes in the ground, or 12 cups. Muffin tins are good. Arrange your holes like this:

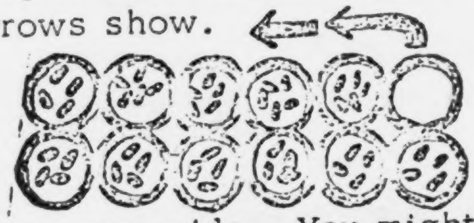


Put 4 beans or pebbles in each hole. You'll need 48 in all.



This is a two person game. You sit one on each side of the board. The six holes near you are your own, the other six belong to the other person.

One person moves first. To move, take all the beans from any one of your own holes and drop them, one at a time, into the following holes. Go in the direction the arrows show.



You might end up on your own side. You might end up on the other side. When you have finished your turn, the other person takes a turn, starting with any of his holes. You keep on playing back and forth. If you end a turn on your opponent's side of the board and there are 2 or 3 beans in the last cup after you put your bean in, you capture those 2 or 3 beans. Take them out of the game. Keep on taking turns until all - or almost all - of the beans are gone. Then count to see who captured the most beans and won.

Games of Strategy

Connect It

Materials:

1. Playing board with thirty small squares of one color and thirty of another color.
2. Twenty pieces of felt ½" x 1½" of the one color and twenty of the other color.

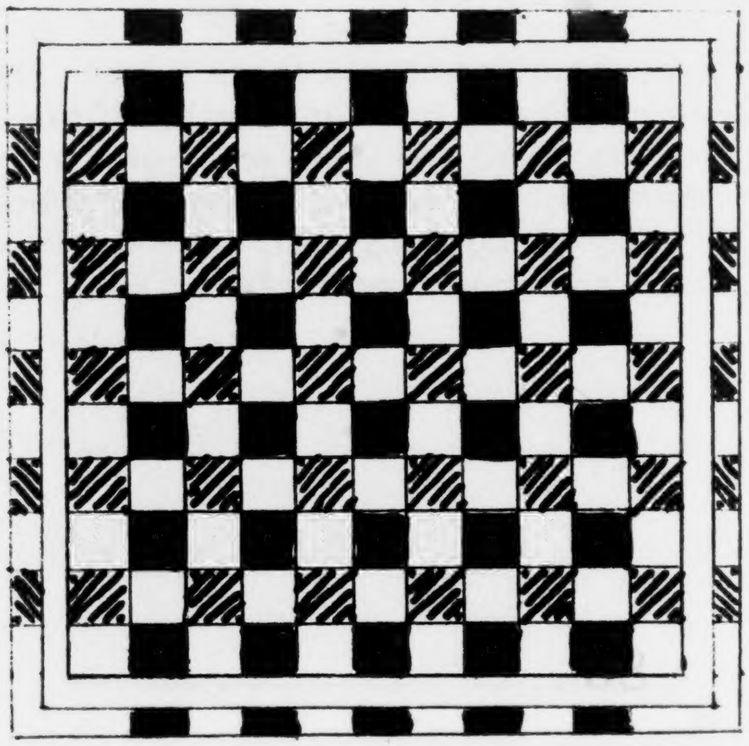
To Play:

This is a game for two players. The object of the game is to complete a path of felt pieces of one color from one similarly colored end of the board to the opposite end of the same color. The game starts by either student placing one of his felt pieces between any two squares of the same color as his felt pieces anywhere on the board. Felt pieces do not have to be placed so that they connect with each other in order. Play continues as each student takes turns placing a piece of felt between the same color squares. At the same time, trying to block his opponent's attempt to complete a path. First to complete an unbroken path of felt pieces from his near side to his opposite side wins.

AdvancedPlay:

Each player takes only 12 pieces of one color felt. If the games isn't won when the 12 pieces of felt are used up, players must take pieces that are already on the board to make moves. Wased pieces should be used first. Moves should be calculated so that a piece of felt is not removed from an advantageous position. Game continues until there is a winner.

More difficult games result from using only 10 or 8 pieces of felt.



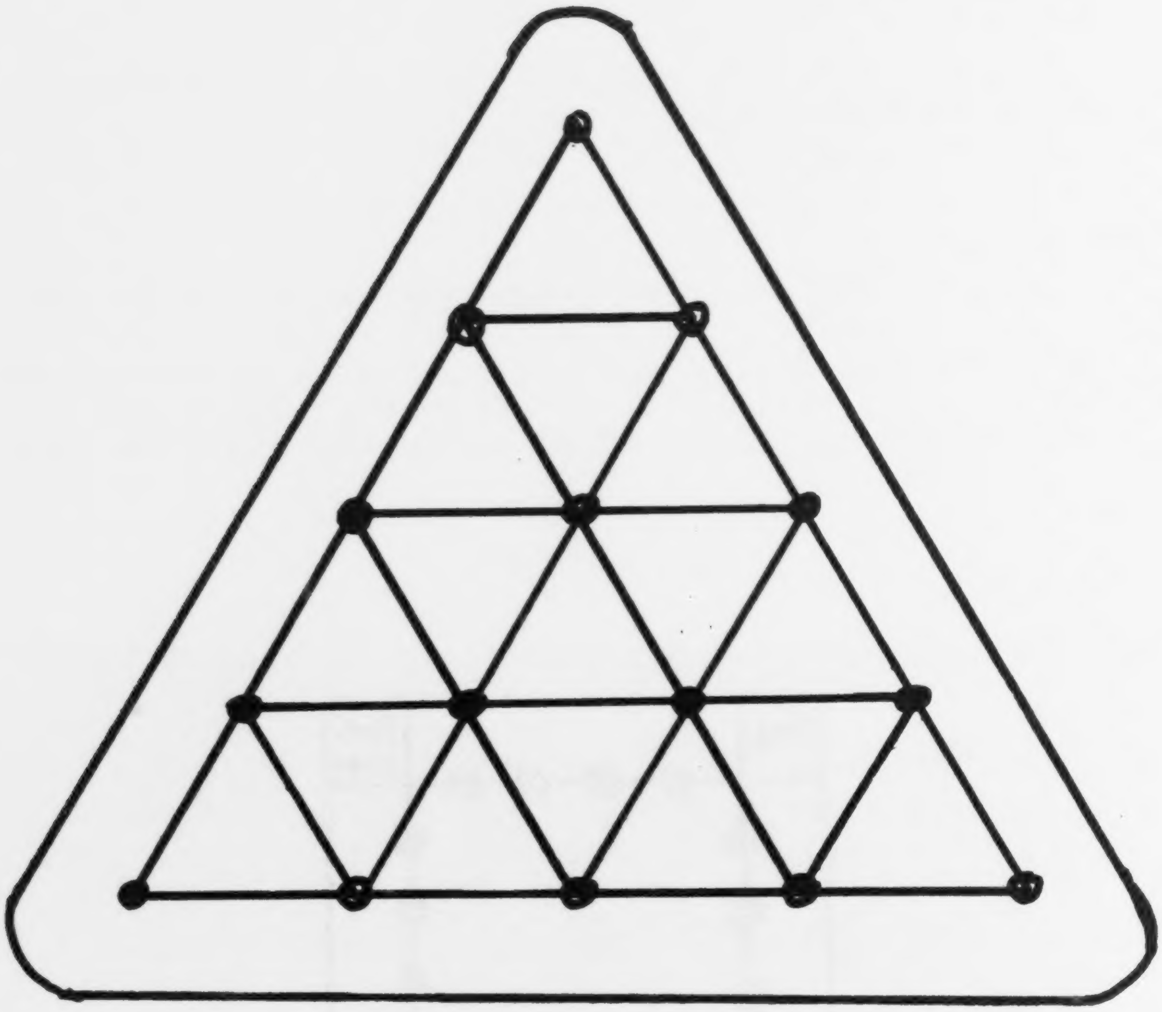
Chinese Jumping Game

Materials:

1. Piece of tri-wall cardboard, Styrofoam, balsa wood, or other material in which holes can be easily bored, approximately 6" x 6".

2. Fourteen colored matchsticks.

To Play: This is a game for one person. Place all fourteen matchsticks in holes--one will be vacant. All moves are jump moves, that is a matchstick is moved over an adjacent matchstick into a vacant hole along any line on the board. The matchstick "jumped" is removed. Object of the game is to have only one matchstick left.



COOL IT!

(German game--Mensch ärgere dich nicht!)

Aim: to get your six men into the diagonally opposite box. Four players.

1. Who plays first? Take turns throwing die. The player with the highest throw starts first. Then proceed with the game, taking turns going clockwise.

2. To move out of your box to get to diagonally opposite box, throw die one on your turn, more man the number of places corresponding to die-throw.

3. If a player throws a number and it's a place which you already occupy, you must withdraw your man into your box.

4. It's a good idea to try to get as many men out of your box as possible. You may jump over your own man if your die-throw is one (1).

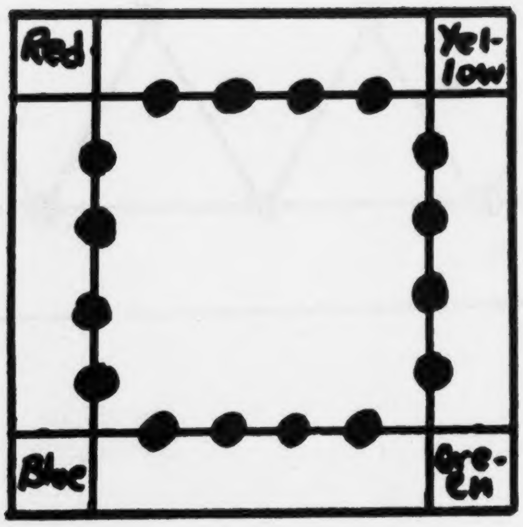
5. When you near the diagonally opposite box is the winner.

Materials:

1. Board laid out as drewn below approximately 9" x 9".

2. Four sets of colored golf tees, each a different color, such as red, yellow, blue and green. Other men such as colored cubes, pieces of plastic, etc. could be substituted.

3. One die.



MILL GAME

Materials:

1. Piece of tri-wall cardboard, Styrofoam, balsa wood, or other material in which holes can be easily bored, approximately 7" x 7". (Board may be drawn on thin cardboard)
2. Two sets of nine matchsticks, each set of a different color. (If board drawn on thin cardboard, then two sets of buttons, colored pieces of cardboard, etc. may be used.)

To Play: This is a game for two people. Each player is provided with nine men of one color. The board is vacant to start. Each player alternately places his men. The object of the game is to capture the opponent's men, by getting three men of your own in a line by occupying any three holes on a line. There are 24 points to place the men. The mentioned three must be on a straight connected line.

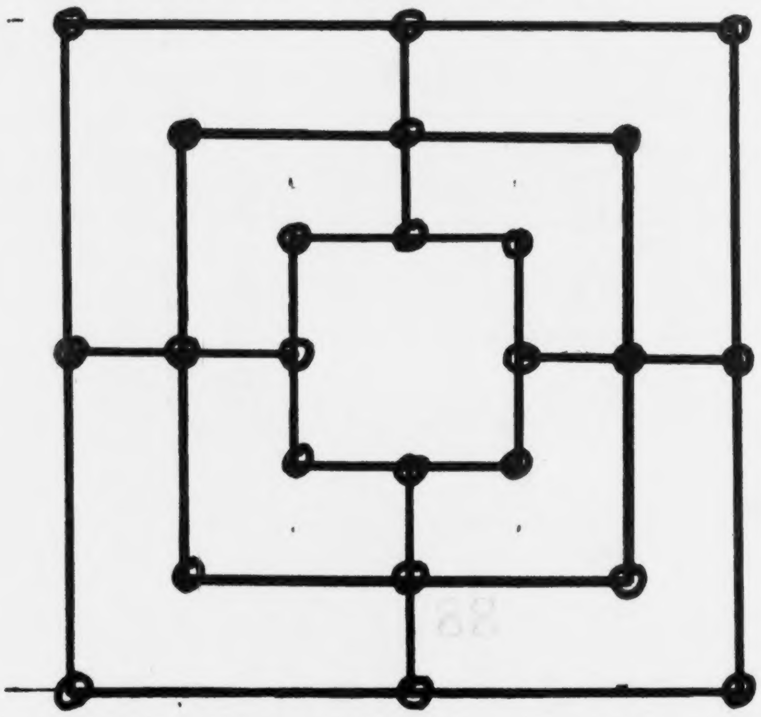
Every time a player gets three on a line he may take one of his opponent's men, except one of three on a line, if there are others to take, if not he may take one of three on a line.

After each player has placed his nine men on the board, the play is to move the men (each player moving his own) to any vacant adjoining space. Not jumping. A player may get his men to form and reform two lines of three each turn.

When one player has only three men left, he may place any one of his men on any vacant space on the board, while the opponent with more men may only move to the nxt intersection or corner.

When a player is reduced to two men he loses the game.

A draw, if one player is blocked and cannot move, or either cannot make three men in a row.



OXBOW PUZZLE

Materials:

1. Piece of tri-wall cardboard, Styrofoam, balsa wood, or other material in which holes can be easily bored, approximate 9" x 1" x 1".

2. Four colored matchsticks of one color and four of another color.

To Play: This is a game for one person. The object of the puzzle is to exchange the positions of one set of colored match sticks with the other set. The set originally on the right may be moved only to the left and the set on the left may be moved only to the right.
A move is either:

1. from one hole to an adjacent vacant hole, or
2. a jump over a matchstick to a vacant hole.